An Exploration of the Mechanisms of Health Literacy and Psychological Empowerment Influencing Chronic Disease Patient Health Behaviours in Kuwait

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ABSTRACT

Chronic disease and its patients make up a significant proportion of Kuwait's health problems; this population is at high risk for morbidity and mortality if behavioural interventions don't become part of the management of chronic disease.

The thesis considers health behaviour in the context of chronic disease management within the healthcare system of Kuwait and focuses on health literacy and psychological empowerment as critical agency capabilities. In this study, health literacy and psychological empowerment are seen as interrelated mechanisms that influence healthy behaviour in chronic disease patients.

The explanatory model of the study is based on the critical realist and structure and agency perspectives. Various theories were drawn upon, e.g., Archer's 'Morphogenetic Sequence', Sen's Capability Approach and Bourdieu's Symbolic Capital. The model is structured to analyse and explain an ontological causal study of the mechanisms of health literacy and psychological empowerment and analyse behaviour in chronic disease patients within the healthcare system.

Patient Capital is the collection of the mechanisms of health literacy and psychological empowerment capabilities and social life circumstances, and it is advanced by patients to interact with barriers to health management in the world of chronic disease. Patient capital was found useful in explicating a causal account on health behaviour and patient behavioural developments as health managers. Development and expansion of patient capital allow patients to utilise its mechanisms as: interactive mechanisms in managing their health, and as agency power in conflicts with surrounding structures.

The interactions occurring in chronic disease management in Kuwait are in a balanced state with their constituents: the modality of care and patient capital. However, the duality of the healthcare system power undermines patient agency, which creates a recursive loop that adds to the burdens of chronic disease. The dominance of the healthcare system over patient agency explains how and why the surrounding structures principally influence the recurring social practices and the patterns of such agency.

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GLOSSARY OF TERMS

Term	Definition
Chronic Disease	“A long-term physical health condition (also known as a chronic condition) is a health problem that requires ongoing management over a period of years or decades. a long-term physical health condition is one that cannot currently be cured but can be controlled with the use of medication and/or other therapies” (NHS business definitions, 2019).
Epistemological Relativism	Transitive knowledge: is a construction of our perceptions about social phenomena and acquired from socio-historical circumstances; therefore, might be incorrect and fallible (Bhaskar, 1998). Intransitive knowledge: refers to real objects, entities, that are independent of epistemology and make up the real world (Bhaskar, 1998).
Health	In the light of medical developments and recent disease trends, ‘health’ has become regarded as a collection of activities which, if performed, will maintain quality of life or, if not, will risk complications and premature death (Clarke et al., 2003).
Health Behaviour	Any activity undertaken for the purpose of preventing or detecting disease or for improving health and wellbeing (Conner and Norman, 1996), such as: "behaviour patterns, actions and habits that relate to health maintenance, to health restoration and health improvement” (Gochman, 1997, p. 3).
Health Literacy	“The individuals’ capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (Nielsen-Bohlman et al., 2004, p.2; Schulz and Nakamato, 2013).
Healthcare Professionals	Healthcare professionals in the context of this study refers to healthcare personnel who are responsible for providing healthcare to patients or communities with a common goal to optimise health, for example, nurses and doctors.
Ontological Realism	Assumes that although individuals create the social world, it also affects their existence; however, ontological processes in the social world exist independent of human perceptions or knowledge (Bhaskar, 1998).

Patient Capital	“the collection of health literacy and psychological empowerment capabilities and social capital; it is advanced by patients to interact with chronic disease management and barriers in the world of chronic disease”.
Psychological Empowerment	A construct related to personality, that reflects values and self-perceptions of control, competence and decision-making in health management. (Spreitzer, 1995; 1998; Bolton and Brookings, 1998).
Self-Management	“day-to-day tasks an individual must undertake to control and to reduce the impact of disease on physical health status. At-home-management tasks and strategies are undertaken with the collaboration and guidance of the individual’s physician and other healthcare professionals” (Murray, 1996, p. 5).
Social Capital	The ‘socially based resources and conditions' patients have at their disposal, which can help them navigate their relationship with their surroundings, including the healthcare system and the wider social environment (Phelan, Link and Tehranifar, 2010; Abel and Frohlich, 2012).
The Actual Domain of Reality	Consists of events which occur when the mechanisms of the real are activated; however, not all events are experienced (Sayer, 2000).
The Real Domain of Reality	Refers to all observable and non-observable events and includes the mechanisms that have generated the actual events and experiences (Sayer, 2000).

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CHAPTER 1: Introduction and Background

1.1 Introduction

Positive health outcomes and control over healthcare expenditure are benchmarks for a successful healthcare system (HCS). However, in recent years, following changes in global disease trends and the rise of chronic disease (CD) as a significant health issue, health outcomes have declined, placing a significant burden on healthcare systems (WHO, 2017). Globally, many areas are facing increases in the levels of chronic diseases in people of all ages, requiring a more considerable effort to help patients self-manage such conditions in order to improve their quality of life as well as to decrease the financial burden imposed by chronic diseases. Therefore, the literature and public health agenda efforts have been directed towards exploring research areas that improve health outcomes, including aspects of patient behaviour. Exploring aspects of patient behaviour, such as: enhancing patients' sense of responsibility and participation in health care systems continues to be a research interest (Cho, Lee, Arozullah and Crittenden, 2008; HHS, 2009; Gustavsson and Andersson, 2017), as a step to promote positive health behaviours and decrease healthcare costs. Therefore, this study is going to explore chronic disease patient behaviour in the healthcare context in Kuwait to identify its mechanisms and ways to improve patient behaviour.

This new-found obligation for patients as well as the healthcare system requires the development of patient capabilities for healthy behaviour(s), an ability to meet the demands of chronic disease management, and the creation of a supportive healthcare environment to support patient autonomy. From an individual perspective, these agency capabilities can function as either facilitators or barriers for patients to act on informed health choices. However, considering the dynamics of structure and agency, these formulated agency choices collide with resource-availability issues and the nature of existing structures, which have a considerable influence on patient health behaviour.

In this vein, research on patient health behaviour in chronic disease populations was linked to constructs that are of a cognitive and psychosocial background. For example, literacy and communication skills, background and experiential health knowledge, competence, or perceived sense control (Dewalt, Berkman and Sheridan et al., 2004; Angelmar and Berman, 2007). Given the shifting and high trends of chronic disease around the world, research interest in patient capabilities has been growing, including Health Literacy (HL) and Psychological Empowerment (PE). The findings are establishing methods for understanding the range of contributing factors to health literacy and psychological empowerment in the chronic-disease context and how they influence health behaviour (Aujoulat, d'Hoore and Deccache, 2007; European Commission, 2007; Paasche-Orlow, McCaffery and Wolf, 2009).

Functional health literacy and psychological empowerment are considered to be important capabilities that have a distinct but interrelated influence on chronic disease patient behaviour (Schulz and Nakamoto, 2013). health literacy capability enables patients to comprehend and use health information; thus, formulate better choices in health management. Although patients are encouraged to develop health literacy for better health management, developing a sense of empowerment is critical to act on the formulated health choices (Bolton and Brookings, 1998). Also, psychological empowerment is best determined by opportunities, and patients' motivation and values not dependent on the wealth of knowledge (Zimmerman, 2000). The theoretical possibility of health literacy and psychological empowerment to be distinct but interrelated capabilities permits empirical categorisation of the sample into four groups according to their different levels of health literacy and psychological empowerment, as they are measured dichotomously (Table 1).

Table 1: Categorisation of Patient Groups

Group	Health Literacy level	Psychological Empowerment level
Group 1	High	High
Group 2	Low	Low
Group 3	High	Low
Group 4	Low	High

Moreover, investigating chronic disease patient capabilities in terms of health behaviour hypothesises the interaction between health literacy and psychological empowerment to potentially explain such patterns of patient health behaviour (Schulz and Nakamoto, 2013). For example, patients with inadequate health literacy or psychological empowerment regularly require support from professionals because the nature of chronic disease management requires daily decision-making and commitment to healthy behaviours. Therefore, these patients demand more resources than patients with adequate health literacy/psychological empowerment capabilities (Martensson and Hensing, 2012). It is neither possible nor practical for healthcare systems to provide constant support and care that such patients ideally require; however, it is possible to tailor interventions to support patients' needs and capabilities. Tailored HCS support ensures that patients do not struggle with accessing health information and that the doctor-patient relationship remains effective in supporting patients' needs and desired health outcomes (Shaw, Ibrahim and Reid et al., 2009a). However, further knowledge is needed to uncover the extent of the influence of health literacy interaction with psychological empowerment on chronic disease patient behaviour.

The existing literature on health literacy and psychological empowerment is abundant, both as separate concepts and with their combined impacts. About the latter, one concern is that when the two are combined, they are usually conflated. Researchers portray the relationship between health literacy and psychological empowerment as a causal relationship, and greater health literacy is assumed to lead to higher levels of empowerment (Banister et al., 2011). This conflation tends to create a lack of clarity of their interrelationship and obstruct the possible knowledge about their interrelated influence. Although researchers have investigated correlations between health literacy and psychological empowerment in terms of improved patient health outcomes, little is known about the mechanisms influencing chronic disease patient health behaviour in terms of their health literacy and psychological empowerment capabilities; particularly, within Kuwait's healthcare context.

With this in mind, the researcher intends to address this gap in the research from a unique theoretical perspective developed to explore patient health behaviour from a cognitive and psychosocial perspective while considering the interaction(s) between structure and agency. Exploration of these mechanisms is paramount in gaining a more advanced understanding of health literacy and psychological empowerment mechanisms influencing patient health management behaviour. It is hoped that the findings innovate transformative interventions for chronic disease patients to engage in more productive and sustainable health behaviours.

Furthermore, the present study also investigates the role of relevant social structures in determining health behaviour. Therefore, the coming section aims to inform readers about the background of the study and provides information about Kuwait that are related to healthcare and chronic disease management. In addition to the Kuwaiti healthcare system and the context in which chronic disease patients form their health choices and behaviour, this section also details structural and sociocultural factors that may influence health literacy and psychological empowerment. However, an outline of the remaining chapters of the thesis will take place next.

The second chapter provides the theoretical context by offering a critical review of the relevant philosophical and theoretical approaches linked to understanding and analysing causality in health behaviour. The study's theoretical perspective informed the literature review by assessing the empirical evidence on patient health literacy and psychological empowerment capabilities in terms of their influence on patient health behaviour. Finally, the influence of structural aspects on health literacy and psychological empowerment are also identified and assessed. Chapter three presents the aims, objectives and significance of the present study in order to address the gap in the literature, specifically, the influence of structure and agency interaction(s) on patient health behaviour while focusing on health literacy and psychological empowerment mechanisms. It is followed by a summary of the methodological approach chosen, along with a detailed description and justification of the methods employed including the design, sampling, data collection and analysis.

Chapters four and five present the quantitative and qualitative results along with an examination and comparison of the data, which sets out to underline the main themes and conclusions of the study. Finally, chapters six situates the findings within the existing literature and discusses the findings, while chapter seven offers recommendations for future research and practice as well as providing a conclusion of the study.

1.2 Background

The healthcare system of Kuwait and its chronic disease management are presented in this section to describe the context in which the research is conducted. First, the structure and modality of care in Kuwait's Healthcare System (HCS) are presented and discussed. This is followed by an exploration of the problem of chronic disease, both worldwide and in Kuwait, to establish the significant burden chronic disease places on the HCS. Also, the cultural impacts on chronic disease in the Kuwaiti context are discussed. This section aims to inform readers about the sociocultural aspects which impact chronic disease patient health management in the Kuwaiti context. Also, this section outlines the extent to which structural aspects limit or enable patient health choices, and ultimately their health-related behaviour. Finally, the importance of health behaviour in managing chronic disease is highlighted, along with a summary of patients experiences and perceptions in this self-manager role. This study intends to explore agency cognitive/psychological and structural factors that may potentially influence patient-health behaviour, a range of other factors will also be explored. This background presents the relevance of the present study to the field and highlights the issues and concerns related to chronic disease and patient behaviour. The following section provides an examination of the Kuwaiti context in which chronic disease patients operate in terms of managing their health.

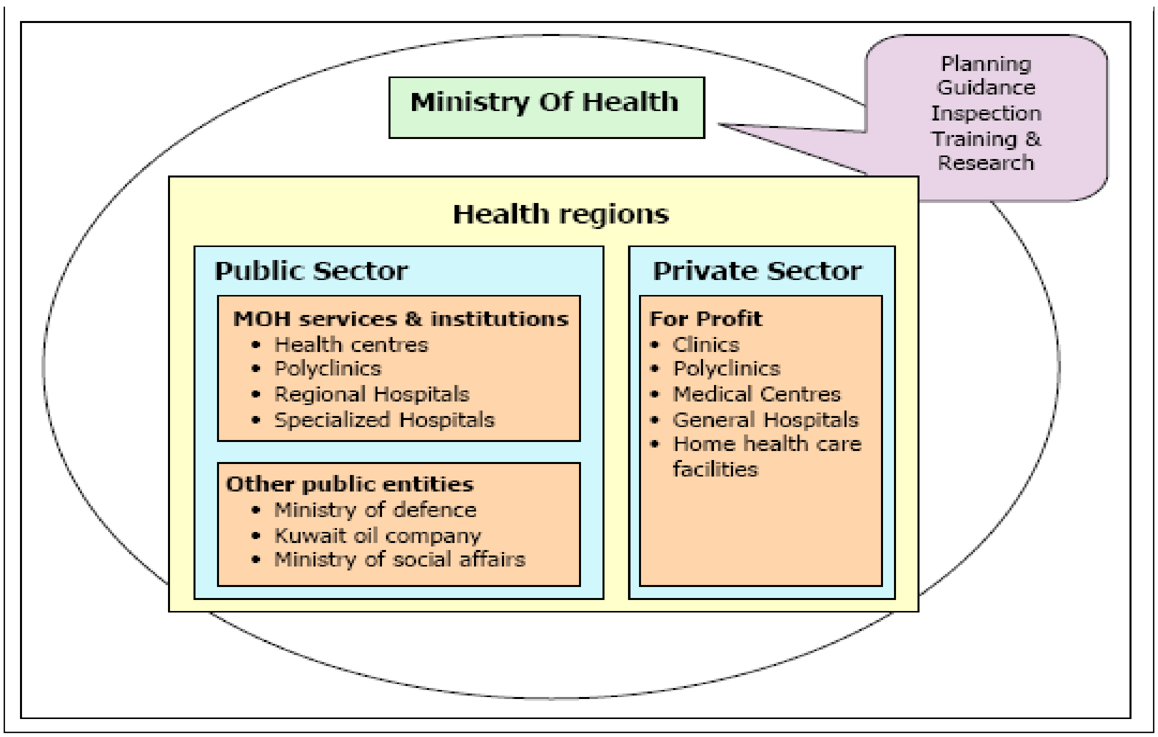
1.2.1 Information About Kuwait

Structure of the Kuwaiti Healthcare System

Kuwait has sophisticated healthcare facilities and enjoys one of the best health networks in the region (WHO, 2015a). Kuwait's HCS consists of both public and private sectors: the ministry of health provides more than 80% of public health services (WHO, 2006). The population data show that Kuwait has a total population of 3.5 million: Kuwaiti citizens are 32.1% while the rest are expatriates, and 98.4% of the population live in urban areas (Department Of Health Information and Medical Records, 2011). The entire population has access to health services, and service provision is free for Kuwaitis and provided at a nominal cost to expatriates only through health insurance. However, since April 2000, health insurance was linked to residency validity, and it became mandatory for all expatriates to maintain a valid residency otherwise their health insurance is revoked (Department of Health Information and Medical Records, 2011). This mandate does not include dispensed medications and non-emergency access to health care for those whose residency has been revoked. Therefore, this policy may influence access to health in expats who fail to maintain their residency.

Kuwait has six general public hospitals, ten specialised hospitals, and 92 primary healthcare clinics and specialised clinics. Furthermore, two governmental hospitals mainly serve employees of the Kuwait Petroleum Corporation and the Ministry of Defence, and a third hospital belonging to the Ministry of Social Affairs provides care for the disabled and elderly. Although the private

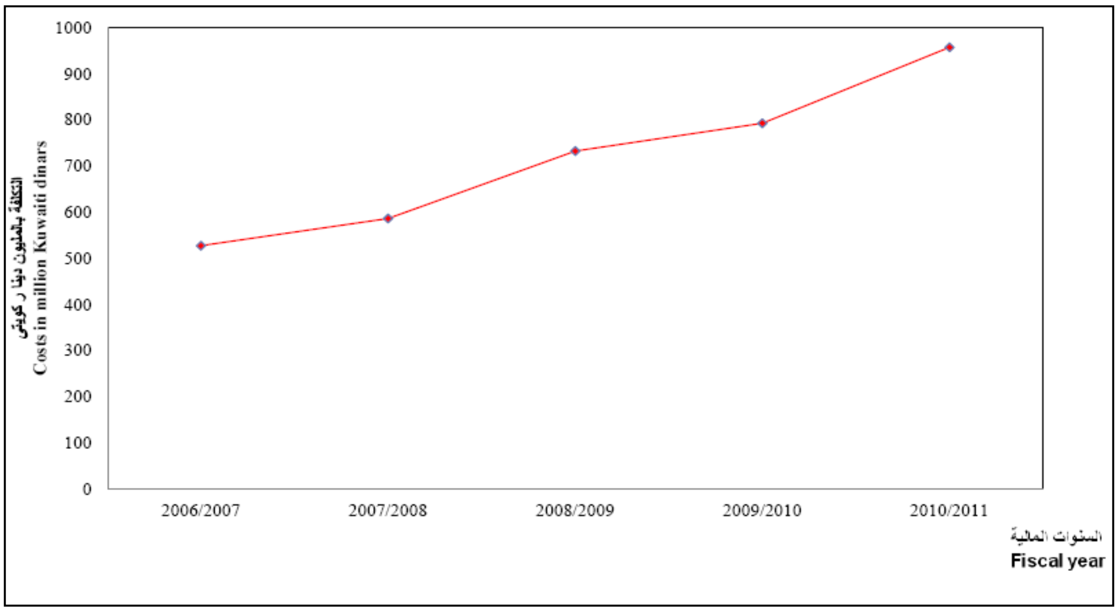
Figure 1: The Kuwaiti Healthcare System



healthcare sector in Kuwait is small, it is rapidly expanding, providing healthcare through a growing number of profit-based hospitals and clinics (Department Of Health Information And Medical Records, 2011).

The public healthcare system serving the population of Kuwait is organised into six health regions: Asema (the capital), Hawally, Farwaniya, Ahmadi, Mubarak Alkabeer and Alsabah. This regional health system, introduced in the 1970s, to contribute to a better consideration of community needs and health problems, and improved management and use of resources (WHO, 2015a). As a result of the regionalisation of the health system, healthcare delivery and services transition have become more efficient. Health regions provide care through a network of primary and secondary health centres, and specialised hospitals and research institutions. Each health region is responsible for managing one general hospital and several primary health and speciality clinics. Primary healthcare includes general practitioner services and childcare, family medicine, maternity care, diabetes patient care, dentistry, preventive medical care, nursing care, and pharmaceutical preventive and curative services centres located in every area in the country. The clinics perform preliminary examinations, routine investigations and referrals to hospital specialists.

Figure 2: Total Expenses on Health Services in M.O.H, Kuwait Health Kuwait, Ed 48. Ministry Of Health. Retrieved from: www.moh.gov.kw



In addition to general practitioner services, some health centres have clinics specialising in chronic diseases and for health promotion (WHO, 2006). Six major hospitals provide secondary healthcare services: Sabah hospital, Amiri hospital, Adan hospital, Farwaniya hospital, Mubarak Al-Kabeer hospital and Jahra hospital. Each has a 2,500-bed capacity, serving about 300,000 people (WHO, 2006). The structure of each of these hospitals includes a general hospital, a health centre, specialised outpatient clinics and dispensaries. Finally, tertiary health care is provided through several specialised hospitals and clinics with a total of 4,575 beds available (WHO, 2006).

Kuwait's Model of Care and Chronic Disease

People in Kuwait enjoy a high standard of health with adequate hospitals, health centres and clinics staffed by skilled health workers who provide safe and effective healthcare. However, health indicators for the burden of disease are similar to those of highly developed countries (WHO, 2014). The prevalence of infectious diseases has drastically fallen as a result of socio-economic and health developments. Recent disease trends in Kuwait demonstrate a rise in non-communicable diseases, which now account for more than 76% of deaths in Kuwait (WHO, 2014). Along with the continuous rise in chronic disease (CD), healthcare expenditure in Kuwait has almost doubled over five years (Department of Health Information and Medical Records, 2011).

At a global level, healthcare systems have followed an acute model of care dominated by health professionals' ownership of patient management, where patients are considered to be passive recipients of healthcare (Coleman and Newton, 2005). Although this is well suited for acute conditions, such as infectious diseases; however, the current acute-care model of health delivery is unable to match the demands of CD. As a result, the current modality of care can influence patients frequent use of medical services and over-extension of medical staff; thus, adding significant challenges to the healthcare delivery and CD patients. Therefore, the methods used by the healthcare system in managing chronic disease may influence patient behavioural engagement. Accordingly, the method of healthcare delivery for CD may also impose burdens on HCS budget in terms of resources; specifically, when healthcare management of chronic diseases is not patient driven.

Problems with the current Model of Care and Chronic Disease

Some of the challenges for the current acute model of care in Kuwait are in improving patients' systematic assessment and the management of follow-up consultations. Other related issues at the governance level are concerning: the low priority afforded to health promotion and prevention agenda, and the health workforce are mostly from different cultures and health systems (WHO, 2014). The Eastern Mediterranean Region also shares the burden and cost of managing chronic diseases, and this is similar across the Gulf Cooperative Council (GCC) countries. However, policymakers show few signs of acknowledging this, and healthcare systems are better at providing acute care than health promotion and prevention for CD patients (Nishtar, 2006; Shah, Shah, and Radovanovic, 1998). because CD requires effective management from healthcare services and support for patients who must negotiate their way through structural barriers to healthcare.

The following section links CD and health behaviours and provides an overview of the prevalence of CD both globally and in the Kuwaiti context.

1.2.2 Chronic Disease (CD)

Chronic disease belongs to the description of disorders that are extended and characterised by potential complications that can affect a person's quality of life. Thus, chronic diseases require long-term adherence to treatment and specific health activities to avert the risk of morbidity and mortality. Chronic disease is usually defined as a non-communicable biomedical disease of long duration, characterised by regular medical treatment and possible complications (Sprangers, de Regt and Andries et al., 2000). Although several categories of chronic diseases exist, the majority classify chronic diseases within a different scope than intended for this study.

The category of lifestyle-related chronic diseases is selected to represent the disease conditions in this study (Bernell and Howard, 2016). For example. hypertension, diabetes, kidney diseases or heart disease are long-term conditions that can be aggravated by unhealthy behaviours (Sprangers et al., 2000). Thus, behavioural interventions are necessary in the management of this category of chronic disease to combat the detrimental effects to health. This study borrows the definition of chronic disease from the UK's National Health Services (NHS) which is defined as: "A long term physical health condition (also known as a chronic condition) is a health problem that requires ongoing management over a period of years or decades. a long-term physical health condition is one that cannot currently be cured but can be controlled with the use of medication and/or other therapies" (NHS business definitions, 2019).

Many studies have shown that patients who engage in healthy behaviours (e.g. healthy diet or exercise) gain physical benefits in terms of fewer symptoms, better functional capability and fewer complications than those who do not, and this is linked not only to chronic disease but also to various diseases like sexually transmitted diseases and alcohol drinking behaviours (Bailey, Pollock, Martin and Lynch, 1999; Jaarsma, Halfens and Tan et al., 2000; Collins, Murphy, Nair and Strecher, 2005; Riemsma, Taal and Kirwan et al., 2004; Williams, Baker and Parker et al., 1998). Self-management of CD entails patients taking responsibility for daily activities regarding medication use, lifestyle changes and behaviour to prevent long-term complications of CD (Barlow, Wright and Sheasby et al., 2002), and within this scope, patients engage with their family and healthcare professionals in the management of their chronic disease (Lorig and Holman 2003; Richard and Shea, 2011).

1.2.2.1 The Burden of Chronic Disease

Globally, it was estimated that approximately 58 million people died in 2005 from CD, such as cardiovascular disease, and this figure rose by 9% in 2015 (Abegunde, Mathers and Adam et al., 2007). The Disability-Adjusted Life Years (DALY) quantifies the burden of chronic conditions in the sum of years of life lost due to premature mortality and physical disability (Michaud, Murray and Bloom, 2001) (Table 2). An appreciation of the rising global burden of chronic, non-communicable diseases has been developing worldwide (Murray and Lopez, 1997; Abegunde et al., 2007; Sav, King and Whitty et al., 2015). However, a gap remains between addressing the burden of CD and adequate national and international health policies concerning the application of effective measures at the individual and community level (Holman and Lorig, 2004).

Table 2: Chronic Disease Projected Global Deaths and Burden

	Deaths (millions)		DALYs (millions)		Deaths per 100000		DALYs per 100000	
	2005	2015	2005	2015	2005	2015	2005	2015
0–29 years	1·7	1·5	220	219	48	40	6320	5994
30–59 years	7	8	305	349	311	297	13304	13375
60–69 years	7	8	101	125	1911	1695	27965	26396
≥70 years	20	24	99	116	6467	6469	32457	31614
All ages	35	41	725	808	549	577	11262	11380

1.2.2.2 Chronic Disease in Kuwait

Kuwaiti society's influence on chronic disease with statistics

Life in Kuwait has changed rapidly. In a period of 50-60 years, the country has seen rapid economic growth and considerable advances in the education and health sectors. Almost all Kuwaiti nationals younger than 40 are now literate with practically no gap between the genders (Public Authority for Civil Information, 2007). In 2010, the adult literacy rate for males was 96% while for females it was 94 %, making the total adult literacy rate 95% (WHO, 2015a). The major socioeconomic transitions in developing societies tend to increase life expectancy, although behaviour and lifestyle choices in such societies tend to change for the worse (i.e. adopting poor lifestyle choices and poor diet), which also increases the rates of CD. Indeed, this phenomenon has had a significant influence on behavioural, social and lifestyle patterns in Kuwait. As a health consequence of these dramatic changes, the prevalence of CD has increased correspondingly (Alarouj, Bennakhi and Alnesef et al., 2007). For instance, Cardiovascular Diseases (CVD) have become the primary cause of morbidity and mortality and are estimated to cause 46.0% of all deaths in Kuwait, with about two-thirds of the population in the region presenting risk factors for CVD (Zubaid, Suresh and Thalib et al., 2004). Other Middle Eastern nations have also reported an increased prevalence of diabetes and hypertension among populations (Al-Nozha, Al-Maatouq and Al-Mazrou et al., 2004), and the total burden of CD in the Middle Eastern region accounts for about 47% of deaths (WHO, 2005). Thus, the effect of CD as contributors to morbidity is prominent and limits individuals' quality of life and disease-free years (Shah, Behbehani and Shah, 2010). This evidence underlines the importance of promoting the effective management of CD to improve both health outcomes and life expectancy.

Contextual Factors affecting chronic disease in Kuwait

CD has come to dominate the overall health status of the Kuwaiti population, and this poses serious challenges both to the nation's health care systems and the health of its patients. Simultaneously, there has been a marked reduction in the incidence of infectious diseases, a decline in mortality and a sharp increase in life expectancy (WHO, 2014). Thus, the prevalence of CD is likely to continue to rise in the current healthcare system, and place an increasing burden on Kuwait's healthcare resources, as well as posing a threat to patient quality of life. The next section presents a selection of health studies investigating Kuwait's CD patient population.

One key factor known to contribute to the high prevalence of CD in a community, in general, is the rapid changes in diet over recent years. This is especially true of Kuwait, as its increasingly globalised status and economic growth have led to a significant increase in imported highly processed foods as well as a massive rise in the popularity of highly processed fast food. This increase has meant that Kuwait's traditional diet which is rich in nutrition and low in cholesterol, artificial sugars and sodium has been substituted for imported high-fat and high-sugar foods that are low in dietary fibre (Musaiger, 2002).

Furthermore, increasing numbers of Kuwaitis smoke and their sedentary, transportation-based lifestyle has also played a significant role in the occurrence of health problems (Mokdad, Jaber and Aziz et al., 2014). Thus, people are living longer but suffering more from behaviour-related

CD. Indeed, this had become a significant health problem in high and middle-income Arab Middle East countries (Musaiger, 2002). CD was found to dominate the trends of the overall health status of the Kuwaiti population, and this poses serious challenges to the nation's healthcare system and the health of its patients. Simultaneously, there has been a marked reduction in the incidence of infectious diseases, a decline in mortality and a sharp increase in chronic diseases and life expectancy (WHO, 2014). Thus, unless transformative strategies are applied in the current healthcare system, the prevalence of CD is likely to continue to increase the burden on Kuwait's healthcare resources, as well as, to pose a threat to patient quality of life.

Table 3: Barriers of Health Management Activities (Serour et al., 2007)

Barriers to Adherence to Diet	**Barriers to Adherence to Regular Exercise**
Unwillingness to adhere to diet	Intensely hot summer weather
Difficulty in following a diet regimen	Always being busy
High frequency of social gatherings	Coexisting disease, mainly ones disabling functionality

Most CD patients over 50 are unsuccessful in adhering to healthy behaviours or lifestyles: for instance, more than 60% of patients do not adhere to diet or exercise programmes (Serour, Alqhenaei and Al-Saqabi et al., 2007). Besides, specific cultural and demographic factors influence adherence to health-management activities (see Table 3). Thus, Serour et al. (2007) maintain that the barriers patients themselves identify in terms of adherence to health-management activities need to be clarified and addressed when counselling on self-management (Serour et al., 2007). Therefore, they recommend further study to uncover the mechanisms that influence CD patient preferences and behaviour. Such as, to investigate the causes behind patient conscious decision not to adhere to a diet or to investigate their priorities to understand which health practices best fit their requirements and why.

Another study (Awad and Al-Nafisi, 2014) examines the independent predictors of cardiovascular disease (CVD) according to patient knowledge levels. It surveyed 816 Kuwaiti nationals and found that 25% of participants indicated that they were suffering from CD. The patients median age in the sample was 33 with 59.6% females, and 39.4% were males. In the level of education, 92.8% had higher education, while 52.4% had a high monthly income. The study identified alarming deficiencies in general CVD knowledge and practices (i.e. monitoring blood pressure) among the Kuwaiti population, a precursor to unhealthy behaviours and poor patient outcomes (Awad and Al-Nafisi, 2014). The authors emphasise that such findings highlight the need to establish community-based educational interventions that are sensitive to the perceptions, attitudes and abilities of the targeted individuals. For example, through developing interventions that aim to modify CD risk factors and complications, and most importantly, improve patient health behaviour.

1.2.3 Health Behaviour

A chronic disease has the potential to significantly affect an individual's life, resulting in role disturbance and lowered quality of life (Sprangers et al., 2000). After a medical diagnosis of CD, patients are confronted with a challenging new reality and must adhere to a healthier lifestyle regimen as directed by their doctor. This transition is a crucial time when CD patients must adjust psychologically and behaviourally under the guidance and support of health professionals; otherwise, this adjustment phase is prolonged and sometimes unsuccessful (Taylor and Aspinwall, 1996). The literature is extensive on healthy behaviours and their benefits to functionality and the prevention of deterioration in health status in CD patients (Ryan et al., 2008). Furthermore, other studies show that certain unhealthy behaviours, such as: smoking, improper diet and lack of physical activity, are capable of worsening CD's adverse effects; for example, in cardiovascular disease (Yusuf, Reddy and Ôunpuu et al., 2001), diabetes (Aljasem, Peyrot, Wissow and Rubin, 2001; Eliasson, Asplund, Nasic and Rodu, 2004) and respiratory disease (Viegi, Scognamiglio and Baldacci et al., 2001).

The following sections provide an overview of the possible outcomes associated with patient behaviour. It also focuses on the importance of patient health behaviour along with the debates surrounding the issues and concerns that CD patients experience as users of healthcare services. In addition to presenting social structures identified in previous studies, patient capabilities will be explored to identify: their needs, the contextual background, and their relation to patient behaviour in CD management.

1.2.3.1 Self-Management in Health Behaviour

Medical developments and changes in disease trends over recent years have changed the concept of health to be regarded as a *collection of activities*. Chronic disease patients are expected to perform health activities to maintain their health and if they do not, they risk complications and premature death (Clarke, Shim and Mamo et al., 2003). These activities constitute self-management in this study, and it is defined as the:

"*day-to-day tasks an individual must undertake to control and to reduce the impact of disease on physical health status. At-home-management tasks and strategies are undertaken with the collaboration and guidance of the individual's physician and other healthcare professionals*" (Murray, 1996, p. 5).

The role of self-management and healthy behaviour is to maintain health and prevent complications in CD patients. Self-management contributes to patient quality of life and unnecessary deterioration of health and eases the load on healthcare services. Findings from previous studies highlight the ability of healthy behaviours in reducing ageing-related health problems and incidents of chronic disease complications (Stuck, Walthert and Nikolaus et al., 1999). Ostbye, Taylor and Krause et al., (2002) suggest that healthy behaviours can extend longevity and reduce the risk of declining physical functioning and independence in later life. Because the probability of chronic health conditions increases with age, positive health behaviours become increasingly crucial for the prevention and management of these health conditions in the elderly.

Self-management tasks

A key characteristic of active self-management is better adherence to treatment regimen (Lorig, Holman and Sobel et al., 2000), which contributes to reduced healthcare costs, improved quality of life and better CD outcomes (Gallagher, Viscoli and Horwitz, 1993; Horwitz and Horwitz, 1993). In the opposite case, poor adherence is known to results in poor CD outcomes and quality of life, and unnecessary healthcare utilisation (Horwitz and Horwitz, 1993); and it is a hallmark of passive behaviour. Patients with passive behaviour usually relinquish their management and do not engage in self-management activities which is reflected by poor adherence to prescribed treatments (Lorig, Sobel and Stewart et al., 1999). Lorig and Holman (2003) summarised self-management tasks and skills that are expected of chronic disease patients (Table 4). They identified

Table 4: The Characteristic Reactions of Active and Passive Self-Managers (Lorig and Holman, 2003)

Tasks and Skills	Passive self-managers	Active self-managers
Core self-management task		
Medical management	Deferred to healthcare professionals	Collaborative with health care professionals
Role management	Feel compelled to relinquish valued roles	Strive to maintain valued roles
Emotional management	Erratic, ineffectual	Conscious, regular use of coping strategies
Core self-management skills		
Problem-solving	Chaotic, catastrophic	Formal, careful process applied
Decision making	Made in haste and fear	Made after carefully weighing options
Resource utilisation	Minimal to none	Expert in identifying and selecting support
Partnership with HCPs	Minimal to none	Highly developed
Action planning	Unfamiliar with process	Applied frequently
Self-tailoring	Minimal to none	Frequent

two sets of characteristic reactions to the demands of chronic management which differentiate between active and passive patient behaviour. The role of health literacy and psychological empowerment may explicate these reactions and help inform on their influence in producing passive and active behaviours. However, the authors (2003) did not mention the extent to which health literacy or psychological empowerment influence a patient's passive or active self-management. Besides, chronic disease patients with inadequate health literacy and self-management skills are more likely to demonstrate passive

health behaviour (Matsuoka, Tsuchihashi-Makaya and Kayane et al., 2016), while the strategies used by empowered patients promote considerable health improvement than those who are not empowered (Tsay and Hung, 2004). Further discussions on health literacy and psychological empowerment influences on health and self-management outcomes are presented in the coming literature review chapter.

The diagnosed patient experiences

Studies investigating patients diagnosed with CD have shown that patients typically show poor adherence to self-management regimens after chronic disease diagnosis. Only about 15-25% of patients improve their health practices post-diagnosis (Dunbar-Jacob and Mortimer-Stephens, 2001; DiMatteo, 2004), suggesting that they find it difficult to adjust to the new challenges of this disease-management situation. Indeed, research shows that the brief period after CD diagnosis has a profound psychological influence on how patients respond to the demands of their new situation. Specifically, key factors mediating newly diagnosed CD patient behaviour in terms of self-management are: (i) patients experiencing a great fear of lifestyle changes (Weijman, Ros and Rutten et al., 2005), and (ii) non-adherence to diet and exercise, which is more prevalent than non-adherence to medication use or check-up appointments and symptom monitoring (Lin, Katon and Von Korff et al., 2004). Another factor explaining non-adherence to self-management is the time and effort required to perform healthy lifestyle tasks without any immediate benefits in terms of symptom improvement or improved wellbeing (Jaarsma et al., 2000; Safford, Russell and Suh et al., 2005). Therefore, poor adjustment to the new challenges of CDs could explain why patients experience difficulty with self-management. However, dealing with CD is not entirely negative, some chronic disease patients overcome these difficulties, and many will eventually succeed in adapting to the changes imposed by CD (de Ridder, Geenen and Kuijer et al., 2008). This is especially true if patients can recognise the long-term demands of managing CD and overcome the psychosocial barriers to performing prescribed health behaviour. Therefore, to develop greater involvement and adherence to care in patients, professionals must support and encourage patients to engage more rigorously in self-management while acknowledging patient psychosocial requirements and the need for resilience (de Ridder et al., 2008).

Furthermore, patients who report positive experiences in health management have been correlated with an intense health event (such as a CD diagnosis) that provokes positive lifestyle changes and/or discovering the benefits of lifestyle changes (Tedeschi and Calhoun, 2004). Indeed, some CD studies have suggested that a heightened sense of threat and perceived stress are related to increased reports of positive changes (Sears, Stanton and Danoff-Burg, 2003). Another consistent correlate was age (Jacobs and Bijlsma, 2001) since changes in habits and lifestyle are easier to introduce in younger patients and challenging to implement for older patients (Lechner, Zakowski and Antoni et al., 2003). Indeed, high rates of CD, inadequate health literacy and psychological empowerment are known to correlate with patients over 40 (Kutner, Greenberg and Baer, 2006; Angelmar and Berman, 2007) which places older CD patients at risk for sustaining unhealthy behaviours and exhibiting poor adherence to self-management activities.

1.2.3.2 Debates on Health Behaviour

A closer exploration of several indicative research studies reveals a substantial reduction in CD complications if healthy behaviours were followed (Stuck et al., 1999; Strong, Mathers, Leeder and Beaglehole, 2005; Brady, Murphy and O'Colmain et al., 2013). However, the argued that the conclusions on health behaviour in self-management of CD are not substantive when they are made without consideration to the interdependent relationship between structure and agency (Jarvis, Skinner, Carey and Davies, 2010; Schulz and Nakamoto, 2013). For example, some researchers consider targeting the individual's characteristics alone is sufficient to ensure effective patient self-management (Funnell, Nwankwo and Gillard et al., 2005) while others posit that specific social structures impact on patients and are responsible for their unhealthy conduct (Galobardes, Shaw and Lawlor et al., 2006). Therefore, health behaviour in the context of CD needs to be empirically explored while accounting for the interdependent influence of both agency and structure to identify the underlying mechanisms that determine its elaboration.

The global agenda in public focuses on encouraging patients to self-manage their CD while patients are facing difficulties to adjust to CD management roles. Although patients are constantly reminded to be active, healthcare systems are not meeting patient actual needs. For instance, patients have expressed that these needs include: (i) access to information, (ii) continuity of care and ready access to it, (iii) infrastructure improvements (waiting times, prompt care) and (iv) ways to cope with symptoms to adjust to the consequences of CD (Holman and Lorig, 2004). In this context, patients may not be able to manage their CD effectively because of minimal contact with health professionals which are influenced by the healthcare services delivery. Therefore, CD patients may essentially self-manage their disease independent of healthcare supervision. Thus, the consequences of patient needs being unmet may influence chronic disease patient health behaviour and become prone to making dangerous health decisions (i.e. discontinuing medications), engaging in behaviour which poses a risk to their health (i.e. failing to maintain a healthy diet), and/or become over-dependent on health services (Schulz and Nakamoto, 2013).

However, empirical knowledge of such aspects is not available in the literature (Sorensen, Van den Broucke and Fullam et al., 2012); therefore, a gap exists in the literature regarding the influence of poor support from healthcare providers and the different needs of patients on health behaviour and their perceptions of self-management. The next section presents the relevant literature concerning CD patient perceptions of health behaviour.

1.2.3.3 Perceptions and Attitudes Toward Health Behaviour

Acute conditions generally comprise short-term events of illness accompanied by brief periods of self-management, if any, and are often dominated by health professionals. In this way, acute disease management is usually less challenging in terms of securing successful health outcomes because of the minimal role-expectation of patients (Newman, Steed and Mulligan, 2004). However, with chronic conditions, the patient is the primary health-manager whose role should be carefully considered and supported by healthcare professionals (Tattersall, 2002). CD patients are expected to make health-related choices on a daily basis regarding diet, physical activity and medication use for example (Bodenheimer, Lorig, Holman and Grimbach, 2002). Hence, CD patients tend to engage with their families and healthcare professionals to devise ways of managing their condition in a process that can be extremely demanding. CD patients must face medical management, adapt to new life roles and cope with the consequences of their chronic condition (Corbin and Strauss, 1988). Indeed, some CD patients may even refrain from making health-related decisions out of fear of the consequences of making an error (Jarvis et al., 2010). Due to this emotional stress, therefore, patients may give up self-management and decision-making out of fear of making a mistake. For instance, emotional difficulties often accompany chronic disease that could progress to anxiety or depression and affect a patient's wellbeing, unless patients are supported through such adversity (Edward, 2013; Zautra, Arewasikporn and Davis, 2010).

In a study investigating the mechanisms underpinning health-behaviour transitions in middle-aged and elderly patients, Ellingsen, Hjermann and Abdelnoor et al. (2003) maintain that patients adherence to healthy behaviour can result from advice by health professionals, or for other patients, adherence can result from patients' recognition of their responsibility to care for their health in an optimal way. Also, patients may realise the necessity for behaviour healthy transitions and change because of an intense health-related experience with a debilitating symptom or serious disease (van

Gool, Kempen and Penninx et al., 2007). Therefore, patient ability to comprehend health situations and the quality of information that health professionals provide can influence how well patients adapt to the new demands of their role as CD self-managers. However, an understanding of the critical, underlying factors which account for the variation in patient decisions to follow prescribed healthy behaviour is paramount, and this forms the focus of the present study.

The previous sections have offered an exploration of the issues surrounding chronic disease and the importance of self-management behaviours. This exploration demonstrated the importance of active self-management role in improving health outcomes and driving down healthcare costs, thereby, overcoming the burden of chronic disease. In addition, knowledge of the conditions in the Kuwaiti healthcare system was examined to provide valuable insights about the influences experienced by CD patients and under which they form their health choices and behaviour. The section below provides a summary of a number of factors known to influence CD patients' behaviour, as identified in previous research studies.

1.3 Description of Factors Influencing Health Behaviour in Chronic Disease

A range of individual-related factors inhibits healthy behaviours: old age, financial burdens, cognitive abilities, education level, anxiety, embarrassment, inconvenience, competence and discomfort associated with accessing health care services (Schulman-Green, Jaser, Park and Whittemore, 2016). Other factors that may influence patients' choices regarding healthy behaviours include interpersonal experiences with others who have the same condition. It is also necessary to ensure that CD patients are supported with access to relevant health information, including support networks, such as: the local healthcare system and professionals, social care experts, social networks, family members and friends.

Furthermore, many other factors that influence patients informed decision-making, self-management, or prioritisation of health activities have been identified in previous studies and presented in this section. These include psychological aspects (i.e. beliefs about ones' personal impact on health), cognitive factors (i.e. knowing the relevant health information) (Schulman-Green et al., 2016), demographic and cultural characteristics (Lynch, Kaplan and Salonen, 1997), and the nature of the patients overall relationship with the health care system (Holman and Lorig, 2004). Behaviour and health are connected in many ways, and these are neither straightforward nor simple. This section provides an overview of the links between CD patient behaviour and specific elements that emerge from patient social environment that may influence their health-related behaviour.

Many behaviour-change models have been developed in order to guide interventions and encourage patients to adopt best practices and adjust their lifestyles to their condition(s). However, the theoretical background of a qualitative meta-synthesis study was most relevant to this research study. The study investigated the factors affecting self-management in adults with CD. Schulman-Green et al. (2016) found that the behaviours that contribute to CD patient general health maintenance develop on multiple levels. The authors identified five categories of factors that influence self-management: (i) personal/lifestyle characteristics (ii) health (iii) resources (iv) environmental characteristics (v) the healthcare system. The interaction among these factors determines individuals' ability to self-manage and motivation to control their health. Schulman-Green et al. (2016) developed the notion of a factor profile that can help to understand how self-management can be improved for a given individual while also considering the social structures that influence them. Under health status, for example, Schulman-Green et al. (2016) describe factors, such as: the co-morbidities a particular individual possesses, illness severity, symptoms, side effects of treatment, cognitive functioning, and how these factors may interact to influence patients overall health behaviour.

The authors maintain that factors like support, knowledge, beliefs and relationship with healthcare professionals exist on a continuum and no one factor is absent. Thus, specific interventions can help to improve a particular factor's influence since these factors always play a role in patient health behaviour: either positive or negative in quality. For instance, the influence of patient-healthcare professional relationship is different when the relationship is transformed from strained to more positive and respectful (Schulman-Green et al., 2016). In addition, a vast range of psychosocial issues (including poverty, empowerment, social class, community access and resources) can influence how well patients respond to the challenge of CD management (Murrell and Meeks, 2002). Demographic variables are also closely associated with healthy behaviour. For example, a study examining the relationship between socioeconomic factors and health behaviour among middle-aged people shows that poor financial standing, low levels of education and employment in manual occupations are consistently related to detrimental health behaviours. On the other hand, high socioeconomic status positively correlated with engaging in healthy activities and disease-prevention behaviours (Lynch, Kaplan and Salonen, 1997). Additionally, because the majority of those on higher incomes were also better educated, this could mean that they were more knowledgeable about the risk of engaging in unhealthy behaviour.

Social life circumstance influence commitment to healthy behaviour, for example, through inflexible employment conditions or a lack of social support are likely to remain inhibitors to the uptake of healthy behaviours (Lynch, Kaplan and Salonen, 1997). Therefore, health programmes and interventions meant to ameliorate health behaviour without consideration to patient social circumstances are often unsuccessful. Furthermore, the study shows that absence of material resources influences individuals to display cynical attitudes to health interventions, as well as a higher tendency to engage in health-damaging behaviours. On this basis, Lynch, Kaplan and Salonen (1997) conclude that the parents' socioeconomic status has a strong impact on an adult's health literacy and health practices. Thus, these psychosocial factors may form a part of the explanation as to why CD patients abstain from prescribed health behaviour. Nevertheless, it is equally important to explore the issues and inferences associated with patient healthcare choices and behaviour. In terms of patient cognitive and psychosocial capabilities, healthcare behaviour in CD patients is likely to be influenced by underlying mechanisms generated by the proposed interrelated influence of health literacy and psychological empowerment.

The present study investigating CD patient health behaviour in Kuwait aims to explore further the causal mechanisms that determine how health literacy and psychological empowerment influence patient behaviour. The following chapter critically reviews the literature in the field of health behaviour. This chapter also benefits from this type of review to link theories and concepts that develop into the present study's theoretical context and an analytical lens to assess the collected empirical evidence.

CHAPTER 2: Literature Review

2.1 Introduction

Critical Realist Review

This literature review has been conducted following the broad principles of the Critical Realist Review (CRR) approach, as presented by Edgley et al. (2014). The Critical Realist Review has been defined as "A literature review which seeks, not only to critique the rationale of a study design about a phenomenon, but also the phenomenon under consideration" (Edgley et al, 2014, p. 16). It has been said this type of review can be as robust and innovative as other orthodox review methods that are also highly relevant to healthcare studies (Lundgren and Halvarsson, 2009). A critical realist literature review is focused and theoretically driven, aiming to look at key papers to contextualise empirical data. CRR aims to employ realist epistemology to contribute to knowledge by evaluating the literature surrounding an issue of interest in two ways: by demonstrating empirical evidence rigour, and by embracing theoretical development of the topic through a critique of forms of social practice related to the issue to help infer its influences. Therefore, CRR seeks and applies theories and methodology from other disciplines to create an explicit theoretical orientation, and to take a position on the controversy around the topic by building a distinctive argument.

Methods and Methodology

CRR methodology encourages researchers to follow other points of interest in the literature search. Hence, one can broaden the search for theories from sociology, psychology or other disciplines in order to benefit and critically situate the research within the broader body of knowledge. It, therefore, became imperative to review the literature from the social sciences on influential topics and phenomena relevant to this study (Edgley et al., 2014). CRR encourages a researcher to probe deeply into the concepts being studied in order to broaden the perspective on the issue and offer novel insights for the researcher (Edgley et al., 2014). This type of approach is, therefore, appropriate for the complex nature of influences in health and social practice. For example, looking at behaviour through a social perspective provides invaluable insights about the role structure powers and agency capacity play in the complex process of behaviour production. Social sciences add depth to the topic of behaviour by exploring the intricate processes underwent by an agency to have (or not have) the capacity to make informed health choices and follow health behaviour.

A conventional literature review would be limited by inclusion and exclusion criteria (Grant and Booth, 2009). Moreover, this approach seeks to neutralise mechanisms of influence and focuses on creating a closed system to investigate single causation to a research problem; however, CRR does not undermine these numerous mechanisms. Rather, CRR appraises theories to address reality in a meaningful way; therefore, it offers a premise to focus on mechanisms and influences that may not be empirically observable (Edgley et al., 2014). Pawson (2006) argues that unlike CRR, Randomised Controlled Trials (RCT) and systematic reviews operate in a closed system and under strict limitations. Usually, a single mechanism, or more, are isolated in an attempt to control other mechanisms, then the impact of this single mechanism is noted as the cause of the behaviour. While behaviour is socially produced in an open system, the causation of behaviour cannot be reduced to a single mechanism. As there are other influencing mechanisms this makes the use of RCTs and systematic reviews questionable.

For example, this research study began with an aim to categorise levels of health literacy and psychological empowerment to examine their mechanisms that may cause different patterns of behaviours and followed a conventional systematic review method. A systematic review directed the study to isolate health literacy and psychological empowerment mechanisms to examine their associations to different patterns of health behaviour. However, going further in literature examination, CRR method was embraced and relevant social theory revealed that the biggest impact on the different patterns of behaviour may result from power interactions between patients and elements in their surrounding contexts. So instead of focusing on individuals, the review focused on social practices in different levels and contexts in the world of chronic disease

Pawson's realist approach methodologically justifies a critique of systematic reviews for open systems; however, it attempts to investigate evidence of the effectiveness of health interventions. Even though, critical realist reviews draw on Pawson's work in addition to embracing critical realism because CRR are concerned with social contexts to gain an explicative and substantive understanding of the problems under study (Edgley et al., 2014). CRR seeks the social context of a problem, and considers macro-level variables critically, in order to state evaluative judgments about research problems, for example, issues in health and the way practice should be. For this study, CRR perspective represents the best method for investigation (Sayer, 2000), allowing researchers to determine what literature is of value to the research concept regardless of theoretical perspective (Grant and Booth, 2009). CRR lends itself to critical realism in its use of theories relevant to social and health issues by developing a critical position relating to theories of power, behaviour or inequality to explore and understand the problem under investigation (Edgley et al., 2014). CRR principles recommend starting with a broad search on research phenomena and exploring theories of social practice; particularly, when there is lack of consensus on the definitions and measurements of health literacy and psychological empowerment.

Dixon-Woods et al. (2006) argue that setting an ‘a priori' or a precise research question is not desirable since it clouds explanations of the actual events in the research. It is preferable that questions form themselves through analysis and scholarly knowledge arising from evaluating the literature (Dixon-Woods et al., 2006). CRR principles guided the literature review to focus on the context of health behaviour in CD patients and to employ social theories about behaviour production. Therefore, the research question was tentative at the beginning of this process. However, as the research process and literature review advanced, the author's theoretical knowledge about CD patient health behaviour advanced as well.

Health behaviour has observable patterns and structures with real causal mechanisms, and when activated they produce an actual observable event (Sayer, 2000). The research began with explorative questions about why behaviour can be different in CD patients, compared to other patients in similar contexts, and what mechanisms are at play. Thus, social sciences theories concerned with the production of behaviour and its context became essential to this literature search. The research theoretically developed as the literature search advanced and the theoretical assumptions of key papers and studies of behaviour were critically reviewed (Pawson, 2006). Guided by the tenets of CR and the adopted theoretical position on behaviour in this study; thus, the research questions ask: How and why do certain cognitive (health literacy) and psychosocial abilities (psychological empowerment) influence CD patient health choices? What mechanisms interplay in the social world to eventually produce actual behaviour?

Structure

Critical Realist Reviews are neither traditional nor exhaustive. According to this flexible approach, there is no specific structure to be followed; instead, the outcome of topic reading and development informs the direction of study (Grant and Booth, 2009). This chapter presents a review of the literature relevant to the development of this study. Furthermore, as the research advanced conceptually, I chose to separate the literature review chapter into two sections to logically address the questions based on the theoretical position taken on the debates concerning the research topic (Edgley et al., 2014).

The structure of the chapter points readers toward the theoretical development of the chosen topic. The first section intends to identify literature from social sciences, nursing and health sciences to bring about a broad perspective on the topic and create an original theory to view the problem of health behaviour in CD patients. The proposed theoretical context should situate the arguments of how and why the mechanisms of health literacy and psychological empowerment influence CD patient behaviour. Also, the investigated theoretical perspectives related to behaviour production helps to guide the analysis of the research findings. The second section presents empirical studies that investigate the research concepts and their contexts, while assessing the theoretical backgrounds of these studies. It aims to provide arguments for the research problem, identify gaps in knowledge within the literature and inform the development of the research methodology for this study. Therefore, this section explores the literature on health literacy and psychological empowerment as capabilities influencing patient health choices and emphasises the importance of these influencers in the specific case of CD patients.

Critical Realist Review is a distinct literature review method with its own parameters, which substantively seeks theoretical development of the researched topic. It is critical to the analysis of social practices which are highly relevant to the research questions. In its essence, the Critical Realist Review aims to utilise social science theory and apply it to healthcare practices (Edgley et al., 2014). By integrating social theory and methodology into healthcare practices, the researcher can delve into the core of CR to investigate the real mechanisms generating social and health practices. This approach is appropriate to behavioural studies in the sociology of health and can offer innovative theory and robust claims. Using this type of review for the topics of health literacy and psychological empowerment is justified by its ability to go beyond the controversy surrounding the topic. CR allows a theoretical position to be brought to the current debate regarding the relationship between health literacy and psychological empowerment, and their influence on health behaviour in CD patients.

2.2 Theoretical Context of the Study

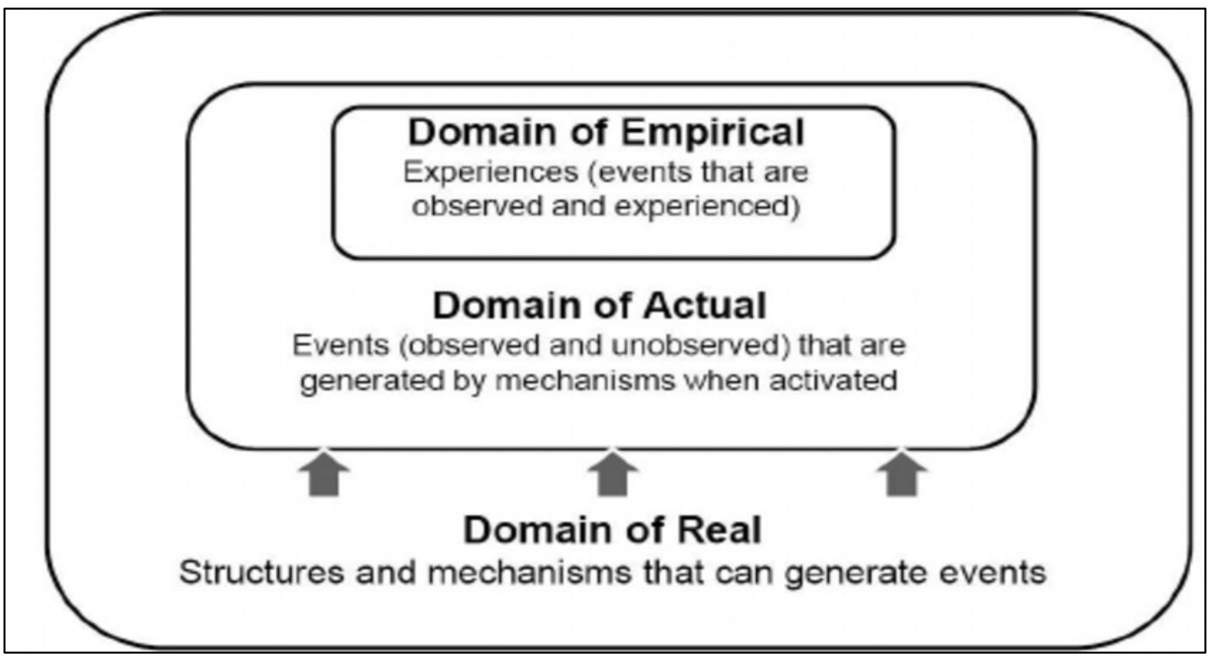
2.2.1 The Philosophical Approach of Critical Realism

The philosophical approach followed in the development of and throughout this research is Critical Realism (CR). Epistemological assumptions of CR provide context for the current study and help situate it within the body of literature, exploring the interrelationships between patients and society on matters that affect health behaviour.

Critical realism is a philosophy concerned with ontology and has flexibility towards epistemology. Means that any knowledge claim must refer to more than just senses and experience, it must also refer to the real objects that exist outside of thought. CR argues that for scientific investigation to take place, the object of investigation must have real, manipulative mechanisms that can be actualised and produce an outcome (Benton and Craib, 2001). CR differentiates between ontology and epistemology because there are no straightforward relationships between what people know or think about the world and the reality of that world. Ontological realism and epistemological relativism are philosophical assumptions that distinguish CR from others. Ontological realism assumes that although individuals create the social world, it also affects their existence; however, processes in the social world exist independent of human perceptions or knowledge (Bhaskar, 1998). This is implied by epistemological relativism which assumes that there are two types of knowledge: transitive knowledge and intransitive knowledge. Transitive knowledge is a construction of our perceptions about social phenomena and acquired from socio-historical circumstances; therefore, might be incorrect and fallible. Additionally, intransitive knowledge refers to real objects, entities, that are independent of epistemology and make up the real world (Bhaskar, 1998). Thus, there might not be one correct explanation of social phenomena; instead, CR considers knowledge as fallible and open to correction with supported work (Benton and Craib, 2001).

Bhaskar (1978) argues that a failure to recognise a difference between ontology and epistemology may lead to 'epistemic fallacy'. It occurs when researchers generalise epistemological criteria or claims and apply them to the world. CR distinguishes the philosophy of reality in its notion of epistemic fallacy, to substitute the reductionism of positivism and the problem of epistemological interpretations of Hermeneutics (Sayer, 2000). Knowledge claims must, therefore, stem from an ontological perspective. To elaborate, researchers first identify the object of study (what exists), then adopt the most appropriate methodological approach to best explain and identify the generative mechanisms of that object, through multiple theoretical models or methodologies, as needed (Bhaskar, 1978). CR maintains a strong ontological perspective; therefore, CR based research is concerned with identifying real causal mechanisms and the context in which they operate on the phenomena of interest. However, to facilitate comprehensive investigation of the topic under study, CR embraces methodological pluralism. Through methodological pluralism, CR has the potential to include various theoretical perspectives without limitations in views or positions on the study of objects. It offers a position on ontology that extends to understand and explain knowledge by differentiating reality into overlapping domains, the real, actual and empirical (Bhaskar and Danermark, 2006).

Figure 3: The Overlapping Domains of Reality in the Critical Realist Ontology (Mingers, 2004)



As Morton (2006, p. 2) points out: "A central idea of CR is that natural and social reality should be understood as an open stratified system of objects with causal powers". CR allows researchers to make sense of the real world and identify causality through multiple domains. Sayer (2000) describes the empirical domain as comprised of observable experiences and our perception of them (directly or indirectly). The actual domain consists of events which occur when the mechanisms of the real are activated; however, not all events are experienced. Finally, the real domain refers to all observable and non-observable events and includes the mechanisms that have generated the actual events and experiences (Sayer, 2000). Unlike the positivism and interpretivism that investigate empirical events, this strong ontological perspective seeks to identify causality in the real domain that generates events (Wuisman, 2005).

Moreover, CR considers that there is a set of mechanisms (observed and non-observed) capable of causing certain outcomes under certain conditions (Sayer, 2000). CR treats causality and context as equally important and related because a change in the set of influencing mechanisms, or a change in the conditions of contexts produces a change in the outcome (Archer, Bhaskar and Collier et al., 1998).

2.2.1.1 Rationale for Adopting the Critical Realism Approach

The application of CR in addressing the ongoing problem of the health behaviour of CD patients has strength in offering principles for arriving at solutions to the problem by not only describing data but also by offering grounds for explanations and justifications to understand the reasons behind the problem. Conducting research under the assumptions of CR provides valid grounds for the critique of social constructionism and positivism. CR provides an attractive alternative 'at least to the more radical versions of social constructionism' and the problem of the causal explanation of positivism: "it seeks to identify those deeper lying mechanisms which are taken to generate empirical phenomena" (Alvesson and Sköldberg, 2009, p. 40). One way of differentiating CR from other schools of philosophy such as positivism, is in the comprehensive way that CR deals with causality. CR investigates the reality on stratification and the three domains, rather than concerning itself with measures or quantification of empirical data or events as they merely occur. Moreover, positivism reduces reality to what can be observed as an event with the sole aim of predicting a relationship between propositions that cannot scientifically infer causality (Sayer, 2000). Constructionism, on the other hand, maintains that reality is socially constructed by human actions or interpretations, but this falls into an epistemic fallacy, with its limitations of looking past agency and reducing the social world to a dependence on human perception (Bhaskar, 1978).

The reality of health literacy and psychological empowerment and their influence on patient health behaviour cannot be understood or explained through quantitative descriptions. CR managed such problems by addressing health behaviour in terms of ontological realism and epistemological relativism. Accordingly, CR provides means to investigate health literacy and psychological empowerment beyond the empirical and into the real domain to comprehensively explain why they influence health behaviour, how this influence is generated, and what are its effects. Therefore, CR signifies a theory of causation at the level of the generative mechanism to establish that for scientific investigation to take place, the object of that investigation must have real, internal mechanisms that can be actualised to produce outcomes (Danermark, 2002). Critical realists believe that unobservable events may cause the observable ones; in that, the social world is better understood if people recognise these unobservable mechanisms. This is important in the experimental context because it allows the researcher to distinguish between the actual event and the real.

In line with CR tenets, this study views health literacy and psychological empowerment as capable of generating mechanisms that cause actual events of healthy or unhealthy behaviours. However, low health literacy and psychological empowerment alone are not capable of explaining observed detrimental effects on health, the contextual influencers in which patients operate are indispensable in such an explanation. Nonetheless, according to CR, the recognition of alternative factors does not cancel out the effects of other unaccounted or unobserved mechanisms. It accounts for their contribution to the fact, even though they are unobserved. Application of CR to this research study emphasises the concept of causality and allows researchers to find a link between what is known to exist and the real domain where mechanisms generate phenomena (Sayer, 2000). In other words, the application of the domain of the real to investigate health literacy and psychological empowerment mechanisms to understand the powers that generate the problem of unhealthy behaviour in CD patients.

The previous section described and critiqued the underlying ontological and epistemological assumptions of CR as the philosophical approach of the present research study exploring the influence of health literacy and psychological empowerment on health behaviour in CD patients in Kuwait. To summarise, using CR as a philosophical lens for health behaviour research provides explanations of causation beyond quantified or predictive relationships. It paves the way for explaining causal relationships and increasing knowledge about health literacy and psychological empowerment processes influencing health behaviour. CR, as a philosophical approach, is well situated within the social and health literature. It is able as an ontology to explain epistemological assumptions about health literacy and psychological empowerment and elicit deep mechanisms for health behaviour to explore factors that contribute to poor health outcomes. CR, when applied to social or health problems deals with open systems and is, therefore, highly concerned with the context in which the generative mechanisms occur (Archer, Sharp, and Stones et al., 1999). In a particular location and time, or context, there are particular patterns of rules of culture and society that interplay with individuals' actions. Explicitly, culture and society are generated by human activities. In the same way, society is continuously changing the dynamic nature of human actions. As such, a mutually influential relationship exists in which humans shape society, which in turn affects human activities (Archer, 1999). Furthermore, social structures are open and cannot be artificially controlled in a closed setting, as in the natural sciences. Therefore, CR requires flexibility and a deep understanding of any social situation, going beyond the observable and investigating the mechanisms underlying any event. A significant application of this theory in research is that it allows researchers to explain complex social events and rule out other confounding explanations. Such an application necessitates adopting a perspective on the structure and agency debates in the social and health literature.

2.2.2 Debates on Structure and Agency Paradigms

The theoretical debate about how structure and agency influence behaviour is ongoing. A structure is the enduring, patterned arrangements and relationships that influence the choices and opportunities available to people. Agency, on the other hand, is the ability to act independently and for individuals to make their own decisions (Rütten and Gelius, 2011). Structure and agency exist in tension because the debates are almost dichotomously separated between having the autonomy to act as a free agent and having to act in a way dictated through social structures (Rütten and Gelius, 2011). This section demonstrates that structure and agency help understand the health choices made by patients, mainly when structure and agency are employed as interdependent and in a recursive loop. I argue that patients have the freedom to make their own choices regarding treatments and managing their conditions; nonetheless, these choices usually collide with structural powers, for example, their socioeconomic status or policies in HCSs and medical practice. Then, the following section ties understandings of health behaviour to the broader sociological debate over structure and agency, by showing how individuals have the power to act upon the world and how social structures either enable or constrain them to some degree. Thus, I argue that the dynamic interrelationship between structure and agency helps to understand the potential influence of health literacy and psychological empowerment, as well as the influences of the surrounding structures placed on patients who try to become more empowered and well-informed about the problems affecting their health.

The debate surrounding structure and agency rests on ontological questions about the nature of the social world; whether decisions we make regarding our behaviour originate from individual choices or determined by structural forces. Of course, proponents on each side of the debate have different beliefs about which element has the primacy to dictate social practice or behaviour. Advocates of a more deterministic view emphasise the ability of structural operations within society to determine the actions of individual agents (Rütten and Gelius, 2011). Therefore, structuralists deny autonomy to individual actors and find their practices to have a limited consequent impact in the social world. In contrast, proponents of an agency perspective focus on the capacity for individuals to transform surrounding structures as a central ontological element in constructing the social world (Cockerham, 2005; Rütten and Gelius, 2011). With an agency-focused viewpoint, any structure evident in the political, economic or social aspects of society are recurrent patterns of activity carried out by individuals. In contrast, a structuralist approach believes that structures create the circumstances in which human activities emerge. In this view, people are accepted not as autonomous beings but as subjects to the structures and constraints in which they exist. Thus, behaviour is not viewed as a consequence of free choice; instead, behaviour is viewed as a result of auxiliary forces and the structure in which it happens (Rütten and Gelius, 2011).

There are other positions within the social sciences and philosophy relating to the relationship between structure and agency. For example, a well-known perspective is that of Anthony Giddens, who recognises the interconnected power of both structure and agency in shaping the existence of the social world, at least to some degree. In developing his structuration theory, Giddens maintains that structures surrounding individuals have the power to either enable or constrain agency actions, while agency, in turn, shapes the production of structural contexts, as it becomes embedded in social structure (Giddens, 1984). In contrast, Margaret Archer argues that Giddens' structuration theory conflates structure and agency, so they lack autonomy, preventing a clear sense of which mechanisms have more influence on behaviour. Giddens' central conflation assumes that structural powers and agency actions are woven together in a way that impedes any possible decryption of the interaction between structure and agency. Archer takes issue with Giddens' view of structure and agency because it precludes any sense of emergent influences and makes it impossible to identify generative mechanisms or to carry out an empirical assessment of the interrelationship between structure and agency (Archer, Bhaskar and Collier et al., 1998).

2.2.3 Morphogenetic Sequence

Margaret Archer argues that there is an interdependence between structure and agency that needs to be conceptualised. She maintains that at a given point in time it may seem as though agency is affecting structure, and there may be a moment in which structure is affecting what individual actions are possible, and that can be empirically observed (Archer, 1995). The two dynamics are interdependent because interactions produced via agency lead to structural elaboration and the reproduction or transformation of the original structure (Archer, 1995). Archer's perspective on these continuous sequences of social processes is described as the ‘Morphogenetic sequence'. This sequence includes three phases: (1) structural or cultural conditioning (2) social or sociocultural interaction (3) social or cultural elaboration (Zeuner, 1999). Zeuner (1999) explains that cultural conditioning has logical relations that function as a situational logic for agents. Cultural conditioning considers both contradictory and complementary sociocultural factors that emerge from interaction and elaboration in the structure and agency dynamic. To simplify, antecedent powers of structures can influence agency in a given interaction, and that interaction can then either constrain or enable actions. It is also important to note that the antecedent structure was itself formerly the outcome of prior agent actions. Likewise, agency actions can be the basis for social events that reshape structural patterns leading to the reproduction of the original structure or perhaps allowing for the emergence of a new practice or new meaning.

Archer also maintains that sequences between structures and agency operate on a timeline and that an ‘analytical dualism' allows for consideration of when change occurs and how replication happens within the social world (Archer, 1995). Archer is known for stressing the temporal factor in the interrelationship between structure and agency, acknowledging that although interdependent, it is possible to separate everyday sequences of agency from structure in the study context, an underlying ontological distinction which is at the core of the CR paradigm (Elder-Vass, 2007a).

Using the CR perspective, it is possible to describe and analyse the theoretical interrelationship between structure and agency. Furthermore, following Archer's views, allows investigation of the empirical separation of structure and agency sequences at a given point in time. I argue that the CR perspective helps to explore the dynamics of structure and agency in a real social situation like CD patient experiences in the HCS, the context of the present research. Specifically, CR helps to explore how the capability of the patient interacts and draws on parts of their surrounding structure system by employing an applicable understanding about their health conditions (HL) and freedom of choice (PE). Therefore, it allows explanations of why and how CD patient behaviour is being transformed or reproduced within the structures in the CD context and patient health literacy and psychological empowerment capabilities.

2.2.4 Structure and Agency Paradigms in Health

The dynamics of structure and agency have been at the core of many sociological questions in recent decades, and there is a long-standing argument involving advocates of agency and advocates of structuralist methods in health research as well as other fields (Elder-Vass, 2010). Despite this long-standing argument, however, there is little discussion in the literature to discuss how structure and agency interrelate with health concepts in particular (Cockerham, 2005).

Public health professionals, who emphasise the agency side of the dynamic, view health behaviour as influenced by individual characteristics, associating unhealthy behaviours with human decisions and the financial profile of a patient (Williams, 2003). These health professionals tend to target modifiable behaviours to mitigate the problem of unhealthy behaviours (Diez-Roux, 1998). In this vein, public health professionals assume that individuals are solely responsible for their disease status, bypassing the influence of social and structural factors on agency choices (Diez-Roux, 1998). However, the problem of health behaviour cannot be reduced to the speculative influence of an individual's attributes and personal health status, though these factors are also significant. In this view, agency-focused individualists stipulate that individuals will have positive health status if they possess 'good' characteristics, despite the environment and other structural factors. Without the right individual characteristics, patients who lack desirable health characteristics, as individuals, are inevitably unhealthy. Although the effects of variation in individual characteristics on health behaviour cannot be overlooked, this approach fails to explain why similar patient profiles lead to different outcomes in different contexts (Cockerham, 2005). The context in which patients operate is as important as the aggregate health characteristics in question.

A consideration of the structural context under which agency actions occur is needed to achieve a dynamic comprehension of the mechanisms that generate health-related behaviours in patients. The advocates of a structural position can be equally deterministic by prioritising only structural factors and denying the input of patients. As an example of a position that emphasises structure and dismisses agency, Demers et al. state that the "…individual cannot be conceptualized as an autonomous actor making self-governing decisions in a social vacuum" (Demers et al., 2002, p. 422). Furthermore, Demers et al. adopt the notion that structures have an overwhelming force that forms patient behaviours, regardless of their choices. For instance, structuralists seek out the environmental causes and macro-level variables and treat them as the determinants of disease outcomes in individuals (Diez-Roux, 1998). For structural-focused public health professionals, there is a tendency to use the term 'context' to refer to aggregate attributes within an area or to describe the kinds of resources available to the patient, which are also sometimes referred to as compositional factors (Shouls, Congdon and Curtis, 1996). In addition, a context may refer to macro-level variables and social relationships (in the same way as cultural forces and economic relationships) that exist within a given area, sometimes referred to as contextual factors (Yen and Kaplan, 1999).

Behaviour is a central topic in the fields of health promotion and other health-related fields, but there remains a difficulty in uncovering the causal factors for patient behaviours in such areas (Rütten and Gelius, 2011). Many public health researchers approach the study of health behaviour by isolating influencing factors (Israel, Schulz, Parker and Becker, 1998; Williams, 2003; Epping-Jordan, Pruitt, Bengoa and Wagner, 2004). However, analysing the interrelationship of structure and agency influences provides a more sophisticated understanding of health behaviour.

The agency-centred approach to behaviour has been employed within several disciplines, it rejects structural factors, thus reducing its practical applicability to cases in the real world. Despite agency-centred and up-stream techniques being observed in the investigation of social phenomena, structural impacts on people's ways of life practices are observed. For instance, Demers et al.'s

(2002) research on alcohol consumption among university students in Canada demonstrated that class position and social connections within the particular setting and among the general population affects drinking conduct and alcohol intake. It is clear from this example that the individual is not conceptualised as a self-sufficient actor capable of making free choices in the social world. Studies like Demers et al. do not provide explicative accounts for the agency factors that influence patient behaviours, and they do not show causation.

The present research study on health literacy and psychological empowerment is focused on both agency and structure contributions to patient health choices and behaviour. The focus on the interrelation between agency capabilities, health literacy and psychological empowerment, may be vital to understanding the mechanisms of patient choices in health behaviour. Therefore, the research framework for the present study also considers individual characteristics, in addition to structural factors as significant influencers in patient health inclinations and choices. Agency and structure are both important considerations in understanding health behaviour, and indeed there might exist health-related behaviours that are influenced by both entities in a mutually constructive way.

The morphogenetic sequence analyses the causes of social practices and behaviours by separating the dualistic relationship between structure and agency (Zeuner, 1999). Therefore, I consider the sequences of the interaction between agency capabilities, health literacy and psychological empowerment, with the influences of structures to explore and explain the production of behaviour in CD patients. The Morphogenetic sequence provides theoretical grounds to gain a substantive and explicative understanding of the social processes that underscore patient behaviour. This research is an effort to address some of the shortcomings of correlation studies to causality and other approaches that either favour methodological agency or a structurally deterministic position of context analysis. However, using Archer's approach to the structure and agency promises an analysis of why and how CD patient health choices interact with surrounding structures to produce health behaviour (or non-health behaviour) (Archer, 1995).

Health behaviour is viewed in this study as a product of interactions between patient capabilities to make a choice and the higher structural powers that influence the choices available. An individual's behaviour is a product of social processes, a product of the interaction of an individual's set of characteristics and the broader social/cultural factors. Therefore, a patient's capabilities, specified as health literacy and psychological empowerment, are seen as influencing the quality of decisions (informed or not) and the ability to act on these health-related decisions, respectively. Theoretically, patients with capabilities congruent with the needs of CD management can be successful self-managers of their condition, as long as the surrounding structural rules and resources are supportive. However, current investigations show that the ontology of people's health behaviours is proving to be far more intricate. To help understand behavioural patterns, we need to deconstruct the multiple causes and infer how they operate across time and in different contexts (Sayer, 2000). As it will be explained further, this review of the literature and existing research identifies several factors related to health behaviour. These include factors that are related to the quality of patient health choices affected by health literacy, or values of autonomy and competency as in psychological empowerment. However, these factors are usually studied separately and categorised as agency capabilities or social structures, and not considered in terms of their interactive morphogenetic sequence.

2.2.5 Agency Capabilities and Social Capital in Health Behaviour

Health behaviour is empirically viewed as an outcome of the interaction between agency capabilities (HL and PE) with surrounding structures. Therefore, CD patient choices, an outcome of health literacy and psychological empowerment, interact with influences of social structures to re/produce patient health behaviour. For instance, the health choices of a patient with inadequate capabilities (i.e. low health literacy and/or psychological empowerment) are not expected to be optimal health choices; yet, the influence of a support network on these choices may steer this patient toward healthy behaviour. This study is interested in the agency capabilities of health literacy and psychological empowerment and how they are influenced by social capital. Therefore, to allows analytical explanations of health literacy and psychological empowerment, it is important to develop a theoretical perspective on the social influences of agency capabilities.

Within the context of health, agency refers to patient capacity to make choices regarding health and their freedom to act upon these choices (Diez-Roux, 1998). This capacity reflects patient capabilities to function autonomously in health management. Therefore, the characteristics of an individual may determine agency capabilities in the health field, whether they are informed and competent with their health. However, the capabilities essential to agency capacity within health do not develop in a social vacuum.

One concept that helps to bridge the ideas of social structure influences on individuals is social capital. Social capital in this context is 'socially based resources and conditions patients have at their disposal, which can help them navigate their relationship with their surroundings, including the HCS and the wider social environment (Phelan, Link and Tehranifar, 2010; Abel and Frohlich, 2012). Social capital in this sense, is meant to create possibilities and opportunities for agency capabilities to develop in health management (Kawachi, Subramanian and Kim, 2008). Therefore, patient capabilities to make choices in health behaviour can be understood as generated from the interaction of patient characteristics and the kinds of available social capital that may reinforce their autonomy or diminish their agency. For example, socioeconomic status, HCSs and professionals, the education system, social/cultural belief systems, norms and traditions all have influences on the boundaries of patients and their health (Kawachi, Kennedy, and Lochner et al., 1997; Pearce and Davey Smith, 2003; Subramanian, Lochner, and Kawachi, 2003). Rather than analysing agency capabilities as a result of a collection of individual characteristics, agency capabilities should also be contextualised as structurally framed to yield a better explanation of their mechanisms in influencing health behaviour.

Social capital here refers to a term that helps to create explanatory accounts on the ontology of agency choices and the conditions activating them. For example, differences in the kind of responses patients resign to or choose may vary according to patients access to different forms of capital. The example comes from evidence that demonstrates the relationship between low socioeconomic resources, and low levels of education to the likelihood of being unhealthy (Kawachi et al., 1997; Murrell and Meeks, 2002), while a high socioeconomic status relates to engaging in healthy activities (Lynch, Kaplan and Salonen, 1997). However, it remains unclear. Following this perspective may explain how experience varies for patients with different social circumstances and why this may be the case. This brings the question of how different agency capabilities may explain patient abilities and needs that make them respond to structural influences in different ways.

2.2.5.1 Agency Capabilities

Another term that allows empirical manifestations of agency is ‘capability', which is explained in the work of the distinguished scholar Amartya Sen. Sen (1992) developed this approach to understand human wellbeing to counter economic definitions that focus almost exclusively on the resources available, like utilitarianism. The capability approach emphasises the freedom to lead different types of lives, using concepts like functionings and capability. Functionings entails the various states or ‘things’ a person can ‘be’ or ‘do’ in different contexts. Examples are being educated or skilled, or the ‘doing’ include caring for health, applying health information. Capability is concerned with functional achievements and seen as socially framed and influenced by individual characteristics and values. Capability refers to "the alternative combinations of functionings the person can achieve, and from which he or she can choose one collection" (Sen, 1993, p.31). Freedom or emancipation is, therefore, reflected by the capability set of a person and the opportunities available to choose. In other words, capability entails the freedom to ‘be' and ‘do' what humans have reason to value. Then in CD, when managing health and being in control of health is valued functionings by patients, the real opportunities and freedom reside in achieving health literacy and psychological empowerment to represent patient agency in health management. Sen's raised a valid conceptual point about the ambiguity of freedom and the premise to lead different types of life. He continues “ if we do not have the courage to choose to live in a particular way, even though we could live that way if we chose, can it be said that we have the freedom to live that way” (Sen, 1993, p.33). Sen’s philosophical ambiguity on the concept of freedom supports the argument that health literacy and psychological empowerment are distinct but interrelated. Although it helps clarify the relationship between health literacy and psychological empowerment, however, it raises ambiguity about why health literate patients may forsake health management and why there might be unequal manifestations of health literacy and psychological empowerment in a CD patient.

Sen recognised that issues like health inequality are not about equal distribution of resources or the specific benefits utilised. Inequality is about what people are capable of extracting from resources despite being equally distributed, and about how the resources match their needs to give them the freedom to improve their wellbeing (Sen, 1992). Therefore, knowledge of the needs and capabilities of resource recipients can make a difference in the benefit extracted of resources and the experience of inequality. Providing patients with greater access to health information is an example that can be used to illustrate this point. Whether greater access to health information improves patient knowledge is dependent on the capabilities of patients and their specific needs at the point of time. Therefore, providing equal access to health information without consideration to capabilities and needs to use the resource, lacks distributive justice and equality (Khader, 2008). Patients should experience a real opportunity to receive health information consonant with their capabilities and learning needs. In general, CD patients consider improving knowledge of their condition necessary; however, greater access to information provision must agree with their cognitive needs for management. Otherwise, they may not extract a benefit from this resource because the information provided does not answer their current cognitive demand. On the other hand, even though provided information may be sensitive to patient cognitive needs; nonetheless, extracting knowledge from this information may be more of a challenge if the patient has limited health literacy. Therefore, the adequacy of distributed resources to patient capabilities (low health literacy or psychological empowerment) may be the difference between expanding agency or diminishing health management potential. Unless the distributed HCS resources are matched with patient capabilities and needs, these patients will continue to experience health inequality, and HCS resources will continue to dissipate without benefit.

The capacity set out by Amartya Sen's approach is not just concerned with the resources available or possession of them; rather, the opportunity of decision is of direct significance to the quality of a person's life (Abel and Frohlich, 2012). For instance, the distinction between starving and fasting changes if an individual chooses not to intake food (Sen, 1988). In this case, the individual starves for a different reason to the individual who does not have the choice, yet a focus on just the measure of nourishment tells us very little about how or why they are emaciated. In a similar way to health literacy and psychological empowerment, a measure of their levels of capabilities does not explain patient behaviour or how and why they follow such behaviour. Sen's capability approach accounts for CR and the interdependent structure and agency dynamic more comprehensively than other formulations like Bourdieu or Weber.

Herewith, I engage Max Weber's work on lifestyle to clarify the dualism between life possibilities and decision-based freedom. Weber's analysis, however, does not consider the freedom of the subject because he was interested in group formation and status, he felt that life chances are anchored within the structure (Cockerham et al., 1997). Pierre Bourdieu's (1989) *'Symbolic Capital'* and habitus goes a long way to show how capital can function as a resource in social conflicts to advance interest and, therefore, impact behaviour. Bourdieu's work is useful for clarifying how inequalities are reproduced in healthcare and how the different kinds of capital available to patients account for the creation of opportunities to improve health (Cockerham, 2005; Veenstra, 2007). However, like Abel and Frohlich (2012), I find Bourdieu's *habitus* idea inadequate to agency and its inherent capacity for change which is intrinsic to the general notion of wellbeing and being healthy (Sen, 1992). For this reason, I chose to use Amartya Sen's capability approach because it helps to consider concerns of both structure and agency, and it also addresses the need to diminish social imbalances by considering individuals' functional right to achieve emancipation in structured social practices. For this study on health literacy and psychological empowerment in Kuwait, employing Sen's perspective helps examine how achievement and emancipation are affected by barriers to agency expansion. Also, it helps to explore in depth how these capabilities are influenced and manifested by CD patients to arrive at informed health choices and act upon in the healthcare context.

2.2.5.2 Social Capital

The contextual social capital perspective is interested in the physical condition and the social practices that arise as a result of a person's material condition (Macintyre, 1997), providing a better explanation of the social manifestations of relationships between patient needs, status and the resources available. Also, this perspective considers the historical and social processes that explain how material conditions have emerged, including income or wealth, as Margaret Archer has noted (1998). Materialist explanations of social capital provide a more nuanced understanding of the social practice elaborated under the influences of social resources and contextualise social relations to help identify the mechanisms that influence health behaviour (Macintyre, 1997).

In the context of healthcare, social capital is a network of relations that influence the way individuals behave (Abel and Frohlich, 2015). With the availability of a supporting social capital, a patient may develop into a capable self-manager. However, some structures in health may or may not facilitate the provision of material and non-material assets, which impacts on patient agency by means of health disparities (Kawachi, Subramanian and Kim, 2008). Therefore, individuals who capable of extracting from social capital to their health advantage are rewarded with better health outcomes than less capable patients. Patients with inadequate capabilities may struggle to manage their health, especially in unsupportive social capital conditions (Abel and Frohlich, 2012). Interestingly, development of capabilities or real opportunities depends on individuals' characteristics, and also on available capital (Sen, 1992).

There are different forms of capital (Eriksson, 2011), as well as different dimensions and views on its meaning; nonetheless, economic, social, and cultural capitals are commonly described resources (Bourdieu, 1989; Portes, 1998; Coleman, 1988). To another extent, Krishna and Shrader (1999) classify social capital into cognitive social capital which includes social norms, values and social relations, and structural social capital as the availability of resources at an institutional level that facilitates agency action. Although there are many forms of social capital, they are not exclusive and these forms of capital are linked and reinforce each other (Krishna and Shrader, 1999). Beliefs about health, cultural norms of a doctor-patient relationship, community access, access to finances and different kinds of infrastructural support can all be considered as capital, as can family support and other kinds of care that are not included in the formal healthcare system. These are all influences on individual capabilities for devising appropriate health plans (HL) and executing their plans competently (PE). In this research, social capital refers to the different resources and their relation to patient choices and behaviour, and it is selected to help explain why patient capabilities and health behaviours vary.

Using Amartya Sen’s capability approach, it becomes clear that making a resource available does not guarantee equality. One should go further to consider the capability of the user to extract their need from these resources (Sen, 1992). If the capital surrounding CD patients does not serve them to grow their health capabilities (HL and PE), patients may be less likely to contribute to their health effectively. Research has demonstrated that patients who prioritise their health act with a lot of self-efficacy and control over their health; on the contrary, patients who neglect their health are limited in their capability to make health decisions (Ziguras, 2004; Aujoulat et al., 2007; Mitzner, McBride and Bard-Walkow et al., 2013).

The next section discusses the literature relevant to the study and the major concepts that construct the research theory on the interrelationship between health literacy and psychological empowerment. this section also critically assesses relevant arguments about the social structures faced by many chronic disease patients and the way patients navigate these structures to adopt healthy behaviours and manage their health. I am interested in the interdependent relationship between social structures and agency capabilities and how this interaction shapes the conduct of patients in health management. Although patient health choices may be uninformed, the influence of structural forces may steer actions toward healthy behaviours or vice versa (Harpham, Grant and Thomas, 2002). An analysis of the mechanisms in the interaction between agency capabilities with structures and their interrelated practices requires a close examination of the known influences in health behaviour and how patients respond to them in self-management.

2.3 Empirical Evidence on the Theoretical Context

2.3.1 Influencers of Health Behaviour in Chronic Disease

Several theories and models have addressed health behaviours from a variety of perspectives. Among these are the Health Belief Model (HBM), the Theory of Planned Behaviour (TPB), the Transtheoretical Model of behaviour change (TTM), the Social Cognitive Theory (SCT) and the Health Empowerment Model (HEM). Although HEM considers health literacy and psychological empowerment as two equally important and interdependent predictors of health behaviour (Schulz and Nakamoto, 2013), it is based on correlations and predictions. These theories and models aim to explore and affect behaviour change; however, their epistemological assumptions were not parallel to the philosophical approach of this study (as many of the empirical studies on the topic are). For example, some theories focus on intentions of behaviour and undermine its generative causality as in HBM and TPB (Elder, Ayala and Harris, 1999; Conner, 2002), or focus on individual factors to behaviour and omit the influencers in the structure and agency dynamic as in TTM and SCT (Kelaher et al., 1999; Conner, 2002). Even though TTM is a patient-centred approach in behaviour change and may not encompass causality in behaviour, nonetheless, it recognises the needs of patients and, thus, is likely to yield beneficial results for CD health behaviour change. TTM matches intervention strategies to target the different challenges experienced by patients in different stages of behaviour change, and this distinguishes it from the models and theories already presented (Conner, 2002). The present study on health behaviours in Kuwait aims to go further in exploring the causal mechanisms that help explain the behaviour of patients with CD. This section presents current information about the links between CD patient capabilities and the elements in patient social environment that influence their behaviour.

This research focuses on the health literacy and psychological empowerment of agency in order to answer pending questions in the literature regarding their connections with health behaviour. It raises questions about the causal powers that have been generated to create these correlations with behaviour. I argue that to provide a plausible account of the correlations of health literacy and psychological empowerment with health behaviour, an exploration of their causal mechanisms must take place. This study follows an ontological perspective in the exploration of the influence of patient capabilities on health behaviour; therefore, it explores the domain of the ‘real' for their generative mechanisms. This is based on the understanding that behaviour is multifaceted, and patterns of health behaviour are better explained through the study of agency capabilities and structural factors.

This section of the literature review provides empirical evidence for the assumptions of the theoretical context of the study. It presents a critical review of the empirical evidence on the agency capabilities of health literacy and psychological empowerment, in addition to their relationship as distinct but interrelated capabilities of CD patient agency. Although theoretical backgrounds of studies in the literature vary, I aim to present evidence that demonstrates health literacy and psychological empowerment's influence on patient capacity to choose healthy behaviours, considering not only the individual patient but also the influencing social conditions shaping these capabilities. This section evaluates the results of studies investigating different mechanisms of agency and structure that influence CD patient behaviour. Finally, the chapter concludes with an analysis of the social relations that shape the structural context in which patients experience CD management.

2.3.2 Capabilities of Chronic Disease Patients

Capability is a term that helps to understand health literacy and psychological empowerment' influence on CD patient health choices and behaviour, as they represent patient capability to extract from resources to manage their health. The capability approach shows that health inequality is neither about the equal distribution of resources nor the specific benefits utilised, patients are sometimes disadvantaged because they lack the capabilities to extract information from the resources available to them (Sen, 1992).

A patient who is health literate and one who is not may come from the same context; thus, individual variations may account for different patients experiences and thereby different agency manifestations. For instance, some individual characteristics and circumstances allow patients to extract their needs from available resources and develop their capabilities. Patient with higher cognitive skills, higher income, or younger age may have better chances of being health literate or empowered than other patients. On the other hand, sociocultural and HCS opportunities could also shape possession of capabilities by patients, where powers might be supportive or might be barriers that impede patients from acquiring health literacy or psychological empowerment, despite individual characteristics. The availability of an education system or the overall socioeconomic status of a geographical area can profoundly influence the ability to read and write. As well as the opportunities and patients experience within healthcare systems may profoundly influence health literacy and psychological empowerment expansion.

Many factors can predispose patients to certain behaviours regarding health maintenance, and they are intricately connected. Many of the factors commonly mentioned in the literature were found to be of a cognitive or a psychosocial nature which relates them to either health literacy or psychological empowerment. Examples of these factors are self-efficacy, perceived sense/locus of control, health knowledge, literacy and education (Dewalt et al., 2004; Angelmar and Berman, 2007). However, the development of health literacy or psychological empowerment is influenced by interactions of individual characteristics and social conditions (Sen, 1992) that either limit or enable greater health literacy or greater empowerment in their health management.

Health literacy and psychological empowerment have received much attention in the literature because of how they influence patients' choices in health behaviour. Generally, Health literacy involves a cognitive ability to process health information about disease conditions and when applied it enable patients to arrive at informed health choices or plans. On the other hand, psychological empowerment is a related concept to health literacy, but with a different sense of meaning and emphasis. It involves a psychosocial ability to perceive control over health, by that it refers to the competency to act on health choices and the autonomy to manage health against opposing powers or barriers.

This section reviews the current empirical literature on health management among patients with CDs and focuses on examples where the influence of both structure and agency is evident in patient behaviour. First, health management capabilities that impact on patient behaviour are examined and the interactions of individual and structural influencers that forge into agency. I also look at the agency that is embodied in the health choices that result in behaviour. Second, I explain how the concepts of health literacy and psychological empowerment are distinct but interrelated capabilities.

2.3.2.1 Health Literacy (HL)

Health literacy is derived from the notion of literacy more generally. Kaestle et al. (1991) define literacy as “the ability to decode and comprehend written language at a rudimentary level, or the ability to say written words corresponding to ordinary oral discourse and to understand them" (Kaestle et al., 1991, p.3). Literacy studies have shown in recent decades the multifaceted ways in which the concept of literacy has evolved, from reading and writing to a more encompassing focus on the skills needed to function optimally in different contexts, i.e. finance, technology or health (Ratzan, 2001). Lacking necessary skills to access and use information prevents individuals from being able to "connect with learning, doing, and becoming" (Hull and Schultz, 2002). Despite the importance of literacy in helping people acquire information and function in today's world, the ability to read or write is not sufficient to function effectively in particular contexts such as the health field. There are further kinds of knowledge and practices that a person develops to gain literacy in the healthcare context. However, this involves the ability to decode relevant health information and to understand it in order to make informed decisions about care (Williams et al., 1995).

Health literacy was a concept that first began to emerge in the literature in the 1970s (Zarcadoolas et al., 2006; Mancuso, 2009). Schulz and Nakamoto (2013) explain that the term ‘health literacy' first appeared in 1974 in a paper by Simonds in which the author advocated that everyone should become more health literate, not just health professionals. He called for the introduction of health education standards for all grade levels in schools in the United States. Simonds argued that it was as important to become literate in health-related matters as it was to be literate in other areas such as personal finance (Ratzan, 2001). Health literacy is a concept that continues to grow in usage because chronic conditions have become more prominent over time, as has the burden that CD places on HCSs around the world. Thus, health literacy is a capability that is becoming increasingly important to patients and healthcare professionals everywhere (Ratzan, 2001; Sorenson et al., 2012). Being health literate means that a patient can put their own health into context, understand health information and use it to formulate a healthy choice or a plan to improve their condition. As Sorensen et al. (2012, p.1) explain, "An individual with an adequate level of health literacy has the ability to take responsibility for one's own health as well as one's family health and community health".

Many scholars point to the association between general illiteracy and poor health outcomes, as limited ability to read or write has been associated with lower usage of preventive services and ineffective self-management (Parker, 2000; Dewalt et al., 2004). For example, Katz, Jacobson, Veledar and Kripalani (2007) examined the effect of literacy on the number and types of questions asked by patients during primary care office visits. The researchers used a convenience sample of fifty-seven participants who were predominantly middle-aged, female and African American. The researchers found that low literacy skills (less than 6th-grade reading level) were present in 38.6% of the participants. The researchers found that low-literacy adults asked significantly fewer questions about medical care issues and were more likely to ask the physician to repeat something, indicating an initial lack of understanding that is suggestive of how patients comprehend information and interact with health professionals. The low-literacy patients were also less likely to use medical terminology for their ailments and side effects, referred to medications less frequently by name, and were less likely to request additional services. The conclusion was that literacy level appears to be a significant determinant of active participation in the medical encounter (Katz, Jacobson and Veledar et al., 2007). This study showed that low-literacy patients ask fewer questions about their medical care, and this may affect their ability to learn about their medical conditions and treatments. This research seeks to identify mechanisms that lead to lower levels of health literacy in patients and considers how these mechanisms influence patient learning about their health.

Low literacy patients are at a disadvantage because of the growing expectation for patients to self-manage their health. This increases the demands on patients, particularly those with a CD. CDs require daily management, adherence to regimens and navigation of complex HCSs autonomously, at the very least. CD patients now, more commonly, have to assimilate medical jargon and complex instructions in order to engage in self-management. If, in addition to these demands, patients have limited health literacy, managing their own health becomes more overwhelming (Sand-Jecklin, Murray, Summers and Watson, 2010).

The following sections discuss the effects of limited health literacy and explore its links to health behaviour and outcomes. Nonetheless, there is a lack of consensus on the concept and definition of health literacy in the literature. The next section informs the reader of the debates on the concept and definition of health literacy, and argues the position taken in these debates.

Definitions of Health Literacy

Davey, Holden and Smith (2015) point to the lack of consensus about health literacy and its definition, expanding the scope of their literature search to include factors that are usually linked to definitions of health literacy, such as: community-connectedness and gaining advice on nutrition from friends rather than doctors, for example. The authors call for more consensus on the meaning of health literacy and its comprising factors so that there can be more consideration of health literacy capabilities in policy and programme design for disease prevention. Although there have been many attempts to define health literacy, the definitions from the American Medical Association (AMA), the Institute of Medicine and World Health Organisation (WHO) are the most commonly listed definitions in health literacy articles (Table 5). AMA definition mentions a constellation of skills, and the Institute of Medicine describes health literacy as a capacity to make appropriate health decisions, while the WHO definition stresses the cognitive and social skills needed to maintain good health. Even though, each of these definitions stresses that health literacy is comprised of a set of multiple skills that help patients navigate information about their health and seek out effective treatments.

Table 5: Common Health Literacy Definitions

American Medical Association	"The constellation of skills, including the ability to perform basic reading and numeral tasks required to function in the health care environment" (Ad Hoc Committee on Health Literacy for The Council on Scientific Affairs, 1999, p.553).
Institute of Medicine	"The individuals' capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (Nielsen-Bohlman et al., 2004, p.2).
WHO	"The cognitive and social skills which determine the motivation and ability of individuals to gain access to understand and use information in ways which promote and maintain good health" (Nutbeam, 1998, p.10).

Functional Health Literacy

Although the notion of health literacy seems straightforward at first, when scrutinized, there are two prominent formats of the concept in the literature. One is oriented by a more 'functional' perspective within a specific context and the other by a public health perspective that transposes health literacy into power in health (Freedman et al., 2009; Friis, Vind, Simmons and Maindal, 2016). Functional health literacy has been defined as the capacity to obtain, process and understand basic health information and services needed to optimally function in a healthy manner and arrive at informed health decisions (Nielsen-Bohlman, Panzer, Hamlin and Kindig, 2004; Baker, 2006). Health literacy in the individualistic sense is concerned with encouraging function and management within the HCS to improve patient health outcomes. Others have criticised functional health literacy because it has a narrow outlook and focuses on personal skills (Martensson and Hensing, 2012).

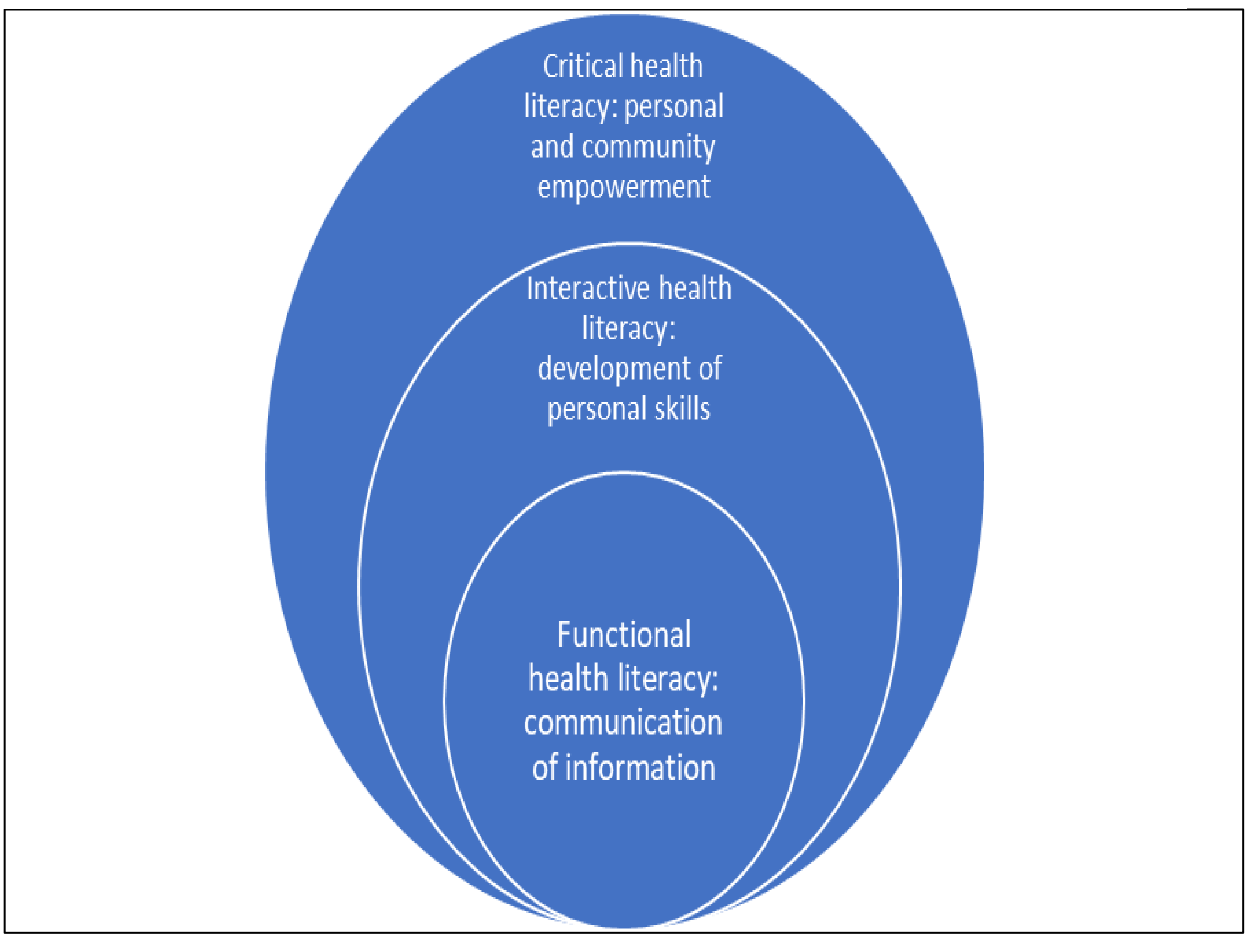
Critics say that the functional health literacy approach projects health literacy as an individualistic pursuit and an outright gain for a patient as they develop the ability to assimilate basic information in a medical context. Some researchers apply a more nuanced understanding of functional health literacy. For example, Baker (2006) further describes functional health literacy as a set of individual skills that allow functioning in healthcare, and that these skills are 'stable overtime,' although there is a margin of improvement possible with proper support. There also exists the possibility of a decline in functional health literacy, which correlates with a lack of supportive conditions, especially to patients with inadequate cognitive abilities. This emphasis on functional health literacy skills stems from an understanding that patient capability to extract and use health information for health management needs depends on personal skills that can be improved with supportive conditions (HHS, 2000; Baker, 2006). In this research, health literacy capability is considered a product of an individual's set of skills and the surrounding conditions within a particular context.

For example, a study by Williams, Baker, Parker and Nurss (1998) examined patients with either hypertension or diabetes to uncover the relationship between their functional health literacy level and their knowledge of their CD and treatment. The aim was to implicitly reflect the influence of health literacy skills in attaining health knowledge. They conducted a cross-sectional survey of patients with hypertension and diabetes who attended general medicine clinics in two urban public hospitals. Health literacy was measured by the Test of Functional Health Literacy in Adults (TOFHLA). TOFHLA is a direct measure of the skills to read and write, and abilities to comprehend and apply health-related information. It is a multiple-choice test that assesses functional health literacy in the healthcare system (Parker, Baker, Williams et al., 1995). Patients' knowledge of their illness was assessed using 21 hypertension and ten diabetes questions based on key elements from educational materials used in the clinics. A total of 402 patients with hypertension and 114 patients with diabetes were enrolled in the study. A total of 92% of patients with hypertension and adequate literacy levels knew that a blood pressure reading of 160/100 mm Hg was high compared with 55% of those in the lowest reading level. A total of 94% of patients with diabetes and adequate functional health literacy knew the symptoms of hypoglycaemia compared with 50% of those with low literacy. The authors thus concluded that inadequate functional health literacy poses a significant barrier to patients learning and information processing, and current efforts to overcome this appear unsuccessful. Although the study had not accounted for the social conditions surrounding this phenomenon, it has targeted the influence of functional health literacy on health knowledge. This is a departure from the public health perspective that would examine patient power in making health decisions as evidence of their health literacy.

On the other hand, advocates of the public health perspective view health literacy as a complex public health issue, dynamic and heavily dependent on the patient's community (Sorenson et al., 2012), focusing on the power dimension as the purpose of health literacy (Nutbeam, 2000). In other words, health literacy incorporates all relative capabilities that make an effective self-manager, whether they are of cognitive, social or psychological capabilities. Health literacy in this sense, requires more than being functionally health literate within a context, it requires developing skills in autonomy and empowerment. Public health advocates acknowledge health literacy to be multidimensional. Nutbeam argues that patients need to be functional and exercise an appropriate level of health literacy, but individuals also need the ability to be interactive and employ power to make decisions (Nutbeam, 2000). For example, Nutbeam's concept of health literacy has three different hierarchical tiers. In the first tier of functional health literacy, the patient has, "sufficient basic skills of reading and writing to be able to function in everyday health care situations" (Nutbeam, 2000, p. 263-4). The second tier is interactive health literacy which Nutbeam defines as, "more advanced cognitive literacy skills which, together with social skills, can be used to actively participate in health care activities, to extract information and derive meaning from different forms of communications, and to apply new information to different circumstances" (ibid.). Lastly, there is also a tier of critical health literacy, which represents, "more advanced cognitive skills, which together with social skills, can be applied to critically analyse information, and to use this information to exert more control over health care events and situations" (ibid.).

The concept of health literacy in the public health perspective is often theoretically attached to psychological empowerment, which reduces functional health literacy to reading and writing only. This conflation has shifted the empirical focus of health literacy from a capability to arrive at informed health choices, to conflate health literacy with empowerment and include constructs like control of health and autonomy. Though, adequate health literacy contributes to successful control and autonomy, except, empowerment is distinct and not dependent on health literacy (Camerini and Schulz, 2012). This empowered perspective of health literacy or the critical health literacy tier obscures empirical analysis of health literacy and psychological empowerment interrelationships and influence on behaviour. For example, within the interrelationship between health literacy and psychological empowerment, being less empowered to take control and act on health choices should not determine whether or not a patient is health literate. This view of health literacy as having different levels or tiers has also been used in other studies.

Figure 4: The Three Hierarchical Tiers of Health Literacy



Matsuoka et al. (2016) applied the three tiers of health literacy in their study on health behaviour (Figure 4), noting its relationship with functional, interactive and critical health literacy. They used cross-sectional analysis and multivariate linear regression analysis of data on 249 heart failure patients and found that only communicative and critical health literacy influence knowledge and behaviour, while functional health literacy has no significance to any parameter. The authors also found that critical health literacy was an independent determinant of self-care behaviour within their study, meaning that the ability "to critically analyse information, and to use this information to exert more control over health care events and situations" determines self-care behaviour (Nutbeam, 2000, p. 264).

The public health-oriented view of health literacy is the patient's ability to understand instructions provided by a healthcare professional, which may also include a number of skills or capacities. The public health view of health literacy also entails empowerment to make decisions and to have their desires as patients respected (Kickbusch, Wait and Maag, 2005). Some confusion exists because many scholars and practitioners who hold the public health view of health literacy conflate the concepts of health literacy and psychological empowerment (Schulz and Nakamoto, 2013). As well as limiting the definition of functional health literacy to patient reading skills and ability to comprehend print material and other sources of information (Davis et al., 1998), it can be argued that the public health view of health literacy undermines functional health literacy and stresses psychological empowerment as an inevitable consequence of being health literate. For example, Nutbeams' definition of functional health literacy omits the abilities to obtain, process and apply health information and only mentions the ability to read and write. In the other two tiers, the definitions assume that patients with "advanced" cognitive skills are able to exert power in their interactions which eliminates the possibility of one skill existing without the other.

The functional health literacy concept includes the ability to understand and process health information to acquire knowledge to arrive at informed health choices (Schulz and Nakamoto, 2013). In a context-specific and functional view of health, the level of proficiency in assimilating health information directly influences patients' capacity to follow up in healthy ways. It also affects their ability to take the initiative when it comes to their health as individuals, families and groups. Furthermore, the functional view of health literacy pays attention to the context out of which individual patient behaviours emerge. Skills and abilities that are associated with health literacy and health management require comprehension of basic related health themes. Individuals with limited basic health knowledge need tailored information, or they may suffer in the management of their health due to a lack of awareness about the body and the nature and reasons for their ailment. Without this ability, they may not comprehend the relationship between the many factors that make up a healthy way of life (Shaw, Huebner and Armin et al., 2009b; McCormack, Thomas, Lewis and Rudd, 2017).

This study adopts health literacy from a patient's perspective, 'functional health literacy' entails the capacity to deal with health through the use of processed information, which allows patients to arrive at informed choices about their health. This perspective is more context-specific and focuses on the cognitive abilities that contribute to shape patient health behaviour and agency. Therefore, the selection of functional health literacy in this study stems from the fact that other definitions encroach into empowerment, while health literacy and psychological empowerment are distinct and their developments involve different processes and different sets of influencers (Zimmerman, 1995; Bolton and Brookings, 1998; Schulz and Nakamato, 2013). Functional health literacy helps to emphasise this distinction and to refute the assumption that possession of cognitive abilities (i.e. health literacy) is parallel to psychosocial abilities (i.e. psychological empowerment). Thus, the conflation of health literacy and psychological empowerment by other definitions reduces functional health literacy to general literacy and assumes that a health literate patient is an empowered one, while in the social world patients could manifest one without the other (Schulz and Nakamato, 2013).

Influence of Health Literacy on Behaviour

Improved behaviour choices and increased access to health information have been linked to health knowledge. Patients also improve their health as they take more personal responsibility for gaining knowledge about their conditions (Rowlands, Shaw, and Jaswal et al., 2015). In contrast, low levels of health literacy have been linked to behaviours that are detrimental to health like tobacco smoking, physical inactivity and unhealthy diets (Vernon, Trujillo, Rosenbaum and DeBuono, 2007). For example, studies in a range of countries have found that patients with low health literacy have higher levels of CD morbidity (Davey, Holden and Smith, 2015; Estacio, McKinley and Saidy-Khan et al., 2015).

As explained above, a review of the existing research finds that a lack of proficiency at health management relates to many undesirable practices, but there are also some contradicting results. Another study maintains that levels of health literacy are not directly correlated with some wellbeing practices (Shaw et al., 2009b). For example, there has been some research on patients with diabetes and their proficiency at health management, which found no relation between low health literacy and a tendency to engage in activities that have a negative impact on health (Gregg et al, 2001).

A significant caveat of studies which concluded that healthy practices are not directly correlated to levels of health literacy were based on research in clinical settings and only measured health management proficiency as far as it led to the adoption of subjective and useful skills in the clinical setting. This may not reflect the skills or attributes needed for long-term health conditions or self-management in other contexts like chronic disease. For example, Chen, Yehle and Albert et al. (2014) aimed to assess a model to explain the relationship between health literacy and heart failure knowledge among patients at a heart failure clinic. The researchers completed assessments of health literacy and related parameters for 63 study participants and found that health literacy was independently associated with knowledge, meaning that health literacy showed a tendency to increase knowledge in patients about their condition, but was not associated with self-management. Also, the only other statistically significant finding was that self-efficacy was independently associated with self-management adherence (Chen et al., 2014). Indeed, this evidence supports the position taken on the influence of health literacy on health management. That is, to arrive at informed health choices while psychological empowerment is proposed to influence management actions on the health choices made by patients.

Furthermore, according to the findings in Chen et al.'s study, health literacy influences knowledge about heart failure while self-efficacy is linked to self-management. Unlike the lack of association between health literacy and self-management, psychological empowerment is found to influence actions in self-management. According to the authors, future research on the relationship between health literacy and self-management should incorporate additional factors that may better model the relationships between health literacy, knowledge, self-efficacy and self-management.

Other studies have sought to uncover associations between low health literacy and gaps or fallacies in CD knowledge. For example, a study by Federman et al. (2013) tried to find an association between inadequate health literacy and poor asthma self-management and health outcomes. The authors tested the hypothesis that low health literacy is associated with inaccurate knowledge about asthma. The researchers recruited 420 asthma patients to measure health literacy using the Short Test of Functional health literacy in Adults (TOFHLA), and they used validated instruments to assess patients' beliefs about asthma, and multivariate models evaluated the association of beliefs with health literacy. The results were that 36% of patients in the sample had low health literacy, of which 54% believed that they only have asthma when symptoms are present. Also, 29% believed that they will not always have asthma, and 20% believed that their doctor could cure asthma. Patients with low health literacy were associated with misbeliefs relating to the possibility of a cure. Also, patients were more likely to be concerned about adverse reactions when using asthma medications, despite recognising their necessity for asthma control. The findings indicate that older asthmatics with low health literacy endorse inaccurate or unscientific beliefs about asthma. Nonetheless, the study focused on the negative consequences of the associations with low health literacy and not the positive associations of achieving adequate levels of health literacy. Federman et al. (2013) state that there is a need for a more appropriate health literacy strategy to promote better self-management behaviours in asthma care and better educational outreach to counter illness-related fallacies.

My research shows the need to examine manifestations of health literacy within their context in order to explore how this influences health choices and plans where there may be barriers preventing the patient from developing this capability. Davey, Holden and Smith (2015) recommend a need for a better sense of the kinds of practices that support health literacy development so that the general capacity-building that surrounds health literacy can be identified.

The studies described above show the associations between low levels of literacy and negative health behaviours. There have also been studies which try to link high levels of health literacy and positive health behaviours that contribute to better health outcomes (Baker et al., 2006; Von Wagner, Steptoe and Wolf et al., 2009). One of these models is the Knowledge, Aptitude and Practice (KAP) framework (Sun et al., 2013). KAP surveys ask questions about health-related behaviours and can help correct misbeliefs that may impede the effectiveness of health education and the desire to alter behaviours. Furthermore, the data from KAP surveys can be used to construct more effective intervention strategies by trying to understand the cultural and social context for health-related practices. In another model devised by Baker et al., health education is one of many variables that leads patients to seek out additional information, uplifting the emotional state of the patient and leading to a significant level of self-efficacy, as well as positive wellbeing practices and better health outcomes (Baker et al., 2006). Von Wagner et al. (2009) further show that health outcomes rely upon a scope of intervening procedures, such as: activities to advance health, prevent complications or compliance with treatment.

The models demonstrate that health behaviour is affected by numerous factors, including a variety of individual and social elements. A patient's individual ability to manage their health is influenced by social elements that either restrict or enable patients to develop the capability to increase health literacy and help them arrive at informed health choices (Friis, Vind, Simmons and Maindal, 2016). Thus, this study aims to identify health literacy influencers and explore health literacy as a mechanism of agency which may explain health behaviour in patients.

Likewise, in Paasche-Orlow's and Wolf conceptual model, (2007), the authors propose causal pathways that link low levels of health literacy to less than ideal health outcomes. The model recognises three distinct variables in healthcare that mediate the effect of health literacy on health outcome: access to and use of medical services, the patient-professional relationship, and self-care (Paasche-Orlow and Wolf, 2007). Using this model, Osborn, Paasche-Orlow and Bailey et al. (2011) examined the mechanisms that link health literacy to physical activity and self-reported health as self-management parameters. The authors recruited patients (n=330) with hypertension from clinics. They used path analytic models to test the pathways linking health literacy to physical activity and self-reported health. The authors found that the demographic characteristics of the patient (race, ethnicity, education and age) predicted health literacy. The researchers also found that health literacy was a significant pathway to knowledge. Other empirically tested causal pathways were from knowledge to self-efficacy, from self-efficacy to physical activity, and from physical activity to health status in hypertensive patients.

In their conclusion they pointed to the conceptual causal pathways in Paasche-Orlow and Wolf model (2007) and recommended further empirical research. Paasche-Orlow and Wolf (2007) proposed causal links between health literacy and system factors at the three healthcare variables: access to and use of medical services, the patient-professional relationship, and self-care. These system factors were: HCS factors (acute care orientation, delivery model, complexity of the system), health professional factors (teaching skills, communication level, time available, patient rapport) and extrinsic factors (technologies, media, health education, resources). Most of these factors can be interpreted as mechanisms of structures that influence patient health behaviour through health literacy and psychological empowerment too. Although the model's causal pathways provide further support to the research theoretical context; however, these casual pathways represent downward mechanisms only and linked health literacy to health outcomes, also, they did not account for sociocultural conditions and influences. Whereas, the theoretical context of this research is focused on down and upward influences of these system factors with health literacy and psychological empowerment.

It is also important to note that the temporality in the causal pathways, between health literacy to knowledge and then knowledge to self-efficacy, was not specified. Therefore, the model has not produced an explicative account on why or how the causal pathways of health literacy are influencing health outcomes. Nonetheless, the Osborn et al. (2011) study recommends that interventions to address health literacy should be sensitive to their capability and aim to enhance patient health knowledge and self-efficacy because these are critical mediating factors to promote self-care behaviour and desirable health outcomes. More research is needed to understand how to promote better health literacy and why certain demographic categories achieve better health literacy than others.

In another research, Wolf et al. (2012) investigated the degree to which cognitive skills explain associations between health literacy, performance on common health tasks and functional health status. The study was extensive, including 882 English-speaking adults aged 55 to 74 at four different healthcare facilities in the Chicago area. The researchers interviewed participants in two separate face-to-face structured interviews that are spaced a week apart. Also conducted health literacy assessments and comprehensive cognitive measures of 'fluid' abilities necessary to learn and apply new information, and 'crystallised' abilities such as background knowledge (Wolf et al., 2012). They used three standardised methods to measure health literacy, including the Test of Functional Health Literacy in Adults (TOFHLA) and the Rapid Estimate of Adult Literacy in Medicine (REALM). REALM is designed to assess patients' reading levels by estimating if their reading grade is below average (Davis, Long and Jackson et al., 1993). The researchers pinpointed different skills that can help to explain performance on common health tasks: 1) comprehending print information, 2) recalling spoken information, 3) recalling multimedia information, 4) dosing and organising medication and 5) healthcare problem-solving. Health literacy measures strongly correlated with cognitive abilities and higher performance in health tasks, while lower health literacy and lower cognitive abilities were associated with unsatisfactory performance on health tasks.

The fluid abilities and the crystallised abilities identified by Wolf et al. are similar to what Amartya Sen describes as ‘functionings'. However, Wolf et al. believe that there is not a limited set of skills that can be isolated as most important in managing one's health (Wolf et al., 2012). Although the roles individuals assume in healthcare require reading and numeracy, the relationship is also more complex than this, as shown by the multivariable analyses the researchers conducted. The relationship is also related to a wealth of other factors, abilities, health knowledge, speed and efficiency of thought, critical thinking, multi-tasking and memory (Wolf et al., 2012). Both the Osborn et al. (2011) and Wolf et al. (2012) studies suggest that health literacy skills are important when combined with other cognitive and behavioural factors to encourage positive patient health behaviour and effective self-management.

Another aspect of health literacy literature explores the success of health literacy interventions. A meta-analysis by Miller, Cage and Nowacki et al. (2018) examined the correlation between patient health literacy and medication adherence, as well as the efficacy of health literacy interventions, in improving both health literacy and treatment adherence. The researchers included 220 published articles in their review. Health literacy was positively associated with adherence in Miller et al.’s (2018) review results, an association that was significantly higher among non-medication regimens and in samples with cardiovascular disease. Health literacy interventions increased both health literacy and adherence outcomes, according to Miller et al.’s review of the literature. The authors included moderator analyses in the review and revealed greater intervention efficacy when health literacy and adherence were assessed using subjective measures compared to objective measures. The researchers also found that health literacy interventions had a greater effect on adherence when the patients were of lower income and racial-ethnic minorities. Miller et al. (2018) note that the study incorporates both correlational studies on health literacy and its relationship to a self-management parameter (medicine adherence) as well as the success of interventions in health literacy. Their findings demonstrate the significance of health literacy to behaviour and the efficacy of health literacy interventions, especially among more vulnerable patient groups.

The following table classifies several articles that examine examples of limited health literacy in studies of different patient populations and settings. In these studies, the effects were classified at the agency level and institution-level effects (Baker et al., 2004; Hope et al., 2004; Dewalt, Dilling, Rosenthal and Pignone, 2007). The effects of low health literacy on self-management behaviours and healthcare services are summarised in (Table 6). As outlined above, from an agency perspective, there have been many studies that link low health literacy to the inappropriate use of medications. Such patients are also less likely to adhere to regimens and are less likely to correctly identify medications or take correct dosages (Kripalani et al., 2006; Wolf et al., 2007). They are also less likely to interpret labels correctly (Schillinger et al., 2003; Raehl et al., 2006). From a structural perspective, patients with low levels of literacy make increased use of emergency services (Baker et al., 2004; Hope et al., 2004; Dewalt et al., 2007), and are at higher risk of multiple and lengthy hospitalisation (Baker et al., 2002; Paasche-Orlow, Riekert and Bilderback et al., 2005; Cho et al., 2008). All of these studies focused on the significance of correlations between low health literacy and behaviours or outcomes; however, there is no research to date that investigates causality and conditions responsible for these correlations. From an ontological perspective using CR, this research aims to answer such questions to explain the existence of these correlations.

Some discussions on health literacy hold that the purpose of health literacy is to enable patients to exert control and make independent choices to manage their health, thus conflating health literacy with psychological empowerment (Camerini, Shulz and Nakamoto, 2012). Therefore, the following section details the development of psychological empowerment as a concept and separates health literacy from psychological empowerment. That is not to say that health literacy and psychological empowerment are unrelated, but that they are distinct. Examining the two closely interrelated concepts and their application in chronic disease healthcare goes a long way to understand the complexities of patient experiences and explore patient behaviours.

Table 6: Classification of Limited Health Literacy Effects

Low health literacy levels effects on agency level	**Low health literacy levels effects on structural level**
1. Inappropriate use of medications, less likely to adhere to regimens, less likely to correctly identify medications or take correct dose, and less likely to interpret labels correctly (Schillinger et al., 2003; Kripalani et al., 2006; Raehl et al., 2006; Wolf et al., 2007).	1. Increased use of emergency services (Baker et al., 2004; Hope et al., 2004; Dewalt et al., 2007).
2. Severity of condition symptoms and higher rates of mortality, especially among the elderly (Sudore et al., 2006; Baker et al., 2007; Bennett, Chen, Soroui and White, 2009).	2. Increased risk of hospitalisation. Higher risk for multiple and lengthy hospitalisations (Baker et al., 2002; Paasche-Orlow et al., 2005; Cho et al., 2008).
3. Decreased knowledge of the disease. Inadequate disease-related information, inability to retain information despite education, poor self-care skills and difficulty applying health information (Williams, Baker, Parker and Nurss, 1998; Parker, 2000; Gazmararian, Williams, Peel and Baker, 2003; Nielsen-Bohlman, Panzer, Hamlin and Kindig, 2004).	3. Increased expenses and cost: an economic loss as a result of increased expenses for health systems. In the United States, this represents between 7% and 17% of all personal healthcare expenditures (Nutbeam, 2000; DuBay, 2004; Weiss and Palmer, 2004; Vernon, Trujillo, Rosenbaum and DeBuono, 2007).
4. Decreased use of preventive services and screenings (Howard, Sentell and Gazmararian, 2006; Cho et al., 2008; White, Chen and Atchison, 2008).	

2.3.2.2 Psychological Empowerment (PE)

Empowerment is a concept frequently used in the fields of management, political science, psychology and nursing, for example (Aujoulat et al., 2007). The notion of empowerment first began appearing in academic literature in the 1970s as a concept of interest in various disciplines. A general definition of empowerment is “a process by which people gain mastery or control over their lives" (Rappaport, 1987, p. 122). Each field has a unique way to envision empowerment, or sometimes 'enablement', and whether that be providing resources or opportunities for change, promoting autonomy or granting power, however, there are also other dimensions empowerment that are stressed differently depending on the discipline (Ferreira and Castiel, 2009).

Patient empowerment is understood as "a process by which people gain greater control over decisions and actions affecting their health in the healthcare field" (Nutbeam, 1998, p. 6). Patient empowerment is a process whereby individuals or groups gain control over their health and expand their ability to manage issues they characterise as imperative to their health. There are numerous definitions of patient empowerment, but most relate to the idea that patients are competent and autonomous in acting on their health and can impact the way they interact with barriers. Conversely, the unempowered patient would be passive and dependent on healthcare services as merely a recipient of care (Sadan, 2004; Estacio, 2013). Furthermore, modifiers of the term 'empowerment' in the literature are usually used liberally; thus, conceptualisations of empowerment also differ. it may describe actions of control and competence, but also may include elements of perceived control or perceived self-efficacy (Perkins and Zimmerman, 1995; Herbert, Gagnon, Rennick and O'Loighlin, 2009).

Similarly, patient empowerment in the health field is often used interchangeably with the term 'patient activation', and their manifestations usually overlap. Empowerment is viewed as a process of patient activation that results in rejection of passive behaviours and engagement with healthcare responsibilities. Thus, patient empowerment, activation, and engagement are differentiated as a three stages process that allows patients to engage with health (Aujoulat, Marcolongo and Bonadiman et al., 2008). However, Fumagalli et al. (2015) argued that patient empowerment involves acquisition of ability and motivation and has greater 'connotation' than activation. Activation has been defined in terms of "an activated patient" as "someone who knows how to manage their condition and maintain functioning and prevent health declines; and they have the skills and behavioural repertoire to manage their condition, collaborate with their health providers, maintain their health functioning, and access appropriate and high-quality care" (Hibbard et al., 2004, p. 1010). Activation is focused on improvement goals and responsibility in self-care, while empowerment does not imply that patients essentially assume responsibility of self-care. Therefore, unlike activation, which is a measure of patients success in self-care, patient empowerment is expected to fluctuate in different contexts and at different times, and its manifestations can lead to patient activation (O'Cathain, Goode and Luff et al., 2005).

Patient empowerment is a capability that is context-specific and takes time to develop, so it is expected to be more relevant to patients who are managing chronic disease as opposed to acute disease (Angelmar and Berman, 2007). Patients who suffer from CD and face long and repetitive treatment plans tend to develop the psychosocial abilities of empowerment if conditions are supportive. An empowered patient has been associated with positive health outcomes, better decision-making abilities, lower anxiety levels, higher self-efficacy, more successful self-management and higher levels of knowledge (Segal, Silverman and Temkin, 1995; Davison and Degner, 1997; Florian and Elad, 1998; Mishra, Spreitzer and Mishra, 1998).

Patient empowerment became an especially attractive concept for health professionals working in patient education and health promotion (Rissel, 1994). In this vein, the number of studies on CD and patient empowerment is indeed vast. The concept of patient empowerment gained more attention and influence after a series of important global health conferences that featured research and discussions on patient empowerment, for example, the Ottawa Charter of 1986 and the 51st World Health Assembly of the World Health Organisation (WHO, 1998). Health promotion is emphasised as a process of enabling people to increase control over their care and to improve their health (WHO, 1986). Also, within healthcare, there have been recent calls to include more consideration of the psychological dimensions of health outcomes that include processes of decision-making and collaborative patient-professional interactions which also fall under the umbrella of empowerment (Anderson and Funnell, 2005; Payne, Mcallister and Davies, 2012).

The idea of empowerment is very similar to the processes described by Amartya Sen's capability approach. Most definitions of patient empowerment emphasise people's freedom to act on decisions about their health and their ability to negotiate with surrounding powers over parts of their lives that contribute to wellbeing. It has been suggested that empowered patients (a) choose social practices that increase their overall health, (b) reduce their reliance on health services and (c) make practical use of whatever assets or resources they have at their disposal (Mcallister et al., 2012; Bohanny et al., 2013). Empowerment comes from making use of functionings because an empowered patient is influenced by motivation and values of autonomy and the freedom to act on their health choices to impact their health. Like Sen's definition of a capability, becoming an empowered patient is about being motivated and competent and requires the patient to use their sociocultural capital for opportunities, for example.

Scholars and health professionals agree that patient engagement in health management is beneficial to health services and patients (McAllister et al., 2012). Empowerment is perceived as a fundamental component of a patient's agency and their capacity to function independently as an effective self-manager, which may eventually lessen the burden on healthcare services. Therefore, patients rely upon the support from health professionals to take more control over the daily management of CD. In this light, Patient Empowerment and Centeredness Committee of the European Health Parliament called for an adjustment of the Pan-European health system to orient itself more towards the empowerment of patients as highly needed in HCSs. The committee has stated the importance of encouraging patient-centred care as a key empowering factor to help patients make healthy choices because patient-centred care provides the resources needed for patients to be empowered (Bonsignore et al., 2016). This also represents a strategy for changing the HCS care delivery model to help manage CDs effectively.

Agency is a concept that allows consideration of the freedom people have to make choices while they interact with their surrounding environments. Ruger (2004), for example, wanted to understand why some CD patients make better health choices than others. He used Sen's capability approach to devise a model to investigate the influences of agency choices using the capability approach and found that agency choices are influenced by multi-layered factors ranging from individual characteristics to a wealth of cultural and social factors under another layer of socioeconomic factors (Ruger, 2004). A focus on individual characteristics and social conditions may explain variations in patient capability to act on their health choices and transform patterns of behaviour within a particular context. Although empowerment enables patients to have the freedom to act on health plans or choices, it does not reflect the quality of the patient health plans or choices (Schulz and Nakamoto, 2011). In order for patients to practise healthy behaviour first they need to apply health literacy skills to arrive at an informed choice through understanding and processing health information. Nonetheless, an individual's sense of psychological empowerment can either promote or suppress their capacity to embrace such a choice in real life (Schulz and Nakamoto, 2013).

Definitions of Patient Empowerment

Despite the growing literature about the general concept of empowerment, patient empowerment remains a vague concept with little consensus on its definition (Aujoulat et al., 2007). Within the health disciplines, researchers usually focus on one of three descriptions of empowerment: (a) patient subjective experience of feelings of power and sense of control (Rissel, Perry and Finnegan, 1996) (b) power relations that seek equality in power distribution between health professionals and patients (Bhopal and White, 1993) (c) a patient's individual experience that promotes decision-making abilities and control (Funnell et al., 1991). Nonetheless, most definitions of patient empowerment refer to the capabilities of individuals to make decisions about self-management and to exert control over health-related issues (Aujoulat et al., 2007).

Empowerment is also context specific, making it unlikely that there could be a single definition of the term (Zimmerman, 2000). The degree to which an individual or social group is empowered in one situation will differ depending on individual characteristics and the cultural, developmental or socio-economic contexts, or even power-relations. Empowerment is a multi-level concept applicable to communities and individuals. Patient empowerment refers to a personal perspective of empowerment within the HCS, while community empowerment refers to the collective ability to assert influence over policies, decisions and social practices that affect health issues related to communities (Schulz, Israel, Zimmerman and Checkoway, 1995).

Empowered patients with high health literacy are those with the capacity to make their own healthcare decisions, which make them less dependent on healthcare services; in turn, this helps to lower costs and the burden on healthcare resources (Dewalt et al., 2004; Chatzimarkakis, 2010; Wolf, Feinglass, Thompson and Baker, 2010; Berkman, Sheridan and Donahue et al., 2011; Macabasco-O'connell et al., 2011; Jørgensen et al., 2017). Therefore, researchers are interested in the relationship between empowerment and positive patient outcomes, yet there is still a need for a unified theory of empowerment in the literature that discusses the causal mechanisms of empowerment (Aujoulat et al., 2007). However, the inherent psychosocial nature of empowerment relates it to multi-layered factors which make acquiring empowerment through training or education highly complex. An encompassing perspective of the multi-layered factors is needed to understand the precise mechanisms that empower patients in their health management.

Prigge et al. (2015) conducted an extensive study to understand the drivers of empowerment among CD patients. The authors conceptualised empowerment as a behaviour of three dimensions: information search, knowledge development and decision participation, in which the first two dimensions reflect the need for competence, and the last dimension reflects autonomy. A large sample of 1,622 patients was recruited to test the influence of empowerment antecedents: level of patient's health involvement, self-efficacy, and patient's acceptance of physician authority. The authors emphasised the importance of the antecedents of empowerment in influencing therapy compliance through their influence on the three dimensions. The findings indicate that health involvement mainly influences the information search behaviour dimension, while acceptance of physician authority negatively influenced decision participation. Self-efficacy was found to impact all dimensions of empowerment; however, knowledge development was only driven by self-efficacy (Prigge et al., 2015). It is worth noting that higher levels in the decision participation dimension of empowerment are more likely to decline therapy compliance.

Furthermore, the main finding in the study supports that information search and knowledge development improve therapy compliance as they are influenced by the patients' level of involvement and self-efficacy (Prigge et al., 2015). On the other hand, acceptance of physician authority affects all dimensions of empowerment negatively, Prigge et al. explain that acceptance of physician authority attenuates decision participation and may influence patients' motivation in their information search and knowledge development. The competence dimension of empowerment focuses on a capability to improve patients as self-managers; therefore, it is more useful for therapy compliance. On the other hand, the autonomy part of empowerment deals with social relations and conditions such as physician authority to transform social practices. Furthermore, Prigge et al., argue that stimulating the need for competence to act on health choices, in contrast to stimulating the need for freedom to act on choices in the social world, may vary in importance across different situations, or behavioural phases.

This study has empirically demonstrated empowerment as a capability of competence and autonomy that influences patients' compliance with medical instructions, however, empowerment is affected by doctors' authority. The study tested the relationship between the dimensions of empowerment and their antecedents, which was useful in portraying competency and autonomy as part of agency action within a given context. However, a critical realist perspective aims for causation and considers the interrelationship of structure and agency when exploring phenomena. Such a perspective would help identify the influencers of empowerment in CD contexts, considering the possibility of different outcomes for patients with different levels of empowerment. Nonetheless, psychological empowerment is conceptualised to interrelate with health literacy (Schulz and Nakamato, 2013), and may explain agency behaviour. The specific concept of psychological empowerment is selected for this research to reflect patients' feelings empowerment and sense of control and competence in their health management. However, the following describes the different meanings attached to the concept of empowerment to gain understanding and to help situate psychological empowerment among the other definitions related to empowerment.

Psychological Empowerment: A Precursor to Empowered Action

Empowerment in the management literature usually encompasses two broad and overarching ideas. First, the idea that employees feel empowered and have a sense of impact and power to influence the terms of their tasks (Spreitzer, 1995); second, a more situational understanding of empowerment that is based on the actions of decision-making and participation in job responsibilities, sometimes referred to as 'role' empowerment or patient empowerment in the health literature (Wall, Cordery and Clegg, 2002). Although patient empowerment is viewed as the ability to gain control and make decisions, psychological empowerment is viewed as a precursor to the broader sense of patient empowerment, and it reflects perceived control and *sense* of having an influence over one's own health. Psychological empowerment reflects an individual's subjective experience and perception of empowerment over his/her healthcare, functioning through an intrapersonal dimension of how people perceive and think about their abilities to influence and control (Bolton and Brookings, 1998). Psychological empowerment is conceptualised to be affected by individual characteristics like confidence, but it can also be affected by the environment within the HCS.

Social conditions like physician authority over patients may influence the ability of patients to participate in decision-making. Some doctors and healthcare systems still practise a paternalistic form of management (Coleman and Newton, 2005). Also, sociocultural factors and norms govern the relationships within the healthcare context that influence empowerment and the ability to gain control over one's health (Shaw et al., 2009b). Certain behaviours stemming from cultural beliefs may limit degrees of empowerment, such: as the differential roles of women in some societies that may give them less access to care, or beliefs about medical professionals' power over patients. This research will look more closely at the mechanisms of psychological empowerment and health literacy that influence patient behaviour because psychological empowerment is antecedent to the more action-based form of empowerment and it is the intrinsic motivation that allows individuals to put the skills of their health literacy into practice.

Ferreira and Castiel (2009) argue that knowledge is an antecedent to empowerment because it is one of the means by which a person becomes empowered. Although the authors relate the practice of empowerment with knowledge, others argue that motivation and values are better determinants of empowerment (Zimmerman, Israel, Schulz and Checkaway, 1992; Zimmerman, 1995). For example, psychological empowerment is a ‘personological construct', i.e. related to personality, that reflects values and self-perceptions of control, competence and decision-making. Therefore, the acquisition of values and perceptions in a person is imperative as a foundation for action in patient empowerment (Spreitzer, 1995; 1998; Bolton and Brookings, 1998). Although, possession of knowledge may be essential to the concept of patient empowerment in health contexts; however, self-views and a sense of perceived abilities primarily influence psychological empowerment, not knowledge (Zimmerman, 1995; Rissel, Perry and Finnegan, 1996; Peterson et al., 2006).

An article by Paterson (2001) looked at self-care decisions among patients with diabetes. Paterson notes that many practitioners perceive patient empowerment lightly as merely an invitation to patients to be part of their care. The study used grounded theory to explore self-care decision-making of 22 patients. The research audiotaped recordings of decision-making which were followed up with an interview. During this process, several participants identified subtle ways that practitioners contradict their stated goal in their interactions with diabetes patients. Participants revealed that despite their intention to foster participation in decision-making, practitioners continued to underestimate patients' experiential knowledge of having a chronic condition. The research also highlighted practitioners’ inability to provide the materials and information necessary for patients to make informed decisions (Paterson, 2001). The actions of practitioners that limit a patient's ability to participate in their health management are another set of barriers sometimes faced by patients. As an example of health behaviour, decision-making practices will be examined among CD patients to look for the mechanisms that prevent achieving psychological empowerment in practice.

Psychological empowerment predicts the agency of patients to act on their health plans or negotiate freedom from the elements of their social environment. Interaction with health professionals in health management is one of the areas of patient behaviour that is influenced by empowerment. Joseph-Williams, Elwyn and Edwards (2014) conducted a systematic review of 44 studies that demonstrated that patients need to know how to participate in decisions, as well as need sufficient degrees of power to participate in making decisions about their health. The authors conclude that patients need more than just knowledge and that it is hard to access power for many patients because of barriers in their everyday context (Joseph-Williams et al., 2013). The study of patients with CD in Kuwait will look at the structural barriers that impinge on patients to gain the power to apply the information that health literate patients possess. Joseph-Williams et al. (2013) note that many of the barriers listed in the reviewed studies are modifiable and that more should be done to break down barriers and make changes that encourage healthy behaviour.

PE includes the intrapersonal dimension of patients' views of self and their abilities to influence and control. Researchers note that the degree to which people view themselves as empowered varies; however, the degree to which these perceptions may be elusive is not yet known (Bolton and Brookings, 1998). In other words, a patient can feel empowered psychologically and mentally; even though, feeling empowered and knowing how to take action are entirely different phenomena (Lawn and Schoo, 2010). In this scenario, there may be patients who perceive themselves to be highly empowered but lack the knowledge required to make informed decisions. Therefore, patients' action may not be based on informed choices, which could result in risky behaviours (Schulz and Nakamoto, 2013). Psychological empowerment is the concept of interest selected for this research study because it refers to patients' feelings and their perception of empowerment. Psychological empowerment explains perceptions that precedes actions of empowerment on health literacy choices.

It is expected that better patient capabilities lead to better health choices, and that may enhance wellbeing and quality of health-life. However, there is often confusion on the degree to which health literacy and psychological empowerment are independent of each other in the literature. Schulz and Nakamoto (2013) maintain that health literacy and psychological empowerment are distinct capabilities, and their independence but interrelationship should be studied empirically. Patients' ability to process health information and apply it can promote the capacity to arrive at an informed health choice; however, a sense of competency or impact can influence action on the health choices made. Hence, health literacy and psychological empowerment are seen as interrelated but distinct agency capabilities in the context of CD, they provide grounds for patients to arrive at informed choices congruent with health standards to have the power to act on these choices.

2.3.2.3 The Interrelation of Health Literacy and Psychological Empowerment

Variations in health literacy and psychological empowerment in patients may explain the kinds of agency patients have within the context of CD care. This study hypothesises that adequate health literacy and psychological empowerment contribute to healthy behaviour in the form of agency assets that patients apply in the context of CD management. Following the tenets of CR in the exploration of agency capabilities, this study is interested in the mechanisms of health literacy shaping how people reach a particular health choice and the mechanisms of psychological empowerment responsible for acting on this health choice competently against the powers of structures. Health literacy and psychological empowerment are critical aspects of patients' volition to self-manage CD (Schulz and Nakamoto, 2013). However, a patient may possess different levels of health literacy and psychological empowerment that are influenced by variations in individual characteristics or the surrounding structures. Using this perspective of health literacy and psychological empowerment being capabilities influencing patient health choices, thus, an exploration of their theoretical interaction may provide grounds to capture the mechanisms generating different patterns of health behaviour in CD patients. This section discusses the interaction between health literacy and psychological empowerment as independent but interrelated capabilities.

Some authors hold that patients with higher levels of psychological empowerment are more eager to learn about their health condition and to participate in decision-making processes about their health (Zimmerman and Warschausky, 1998). Nonetheless, it was also asserted that patients with high levels of health knowledge participate more in decision-making and take control of health than other patients (Porr, Drummond and Richter, 2006). Which explains why possession of health knowledge is advanced as a tool to empower patients' actions; nevertheless, sometimes patients' decisions are not based on sound knowledge. Therefore, assuming that empowered behaviour can only correlate with higher levels of knowledge is not entirely true, especially in the case of psychological empowerment (Bolton and Brookings, 1998). Psychological empowerment is concerned with views of self about being competent and autonomous, and such perceptions are not necessarily based on obtaining higher levels of health knowledge (Schulz and Nakamoto, 2013).

Most studies that combine health literacy and psychological empowerment theorise health literacy as a ‘tool' to empower patients, these studies conflate capabilities of patient agency to be the same dynamic. However, the perspective of health literacy and psychological empowerment suggests their separation as distinct concepts. in this study Studies that tend to conflate these factors without adequate separation are evident in discussions of health behaviour in low socio-economic populations (Porr, Drummond and Richter et al., 2006), and among adolescent women (Banister, Begoray and Daly et al., 2011). This conflation is also evident in studies of nursing practice to encourage health literacy promotion (Gynn, 2012) and in studies on the experience of hospital patients (Bickmore, Pfeifer and Jack et al., 2009). The conflation between health literacy and psychological empowerment was also evident in a study on diabetic patient education programmes in health promotion (Funnell et al., 1991). On the other hand, few studies have explored health literacy and psychological empowerment concepts as distinct to explain patterns of patient behaviours (Diviani, Camerini and Reinholz et al., 2012).

In the few studies that examine health literacy and psychological empowerment as distinct concepts, there is a more explicit articulation of the influences of health literacy and psychological empowerment interrelation. In a cross-sectional study that evaluated the effects of health literacy and psychological empowerment on health outcomes mediated by self-management behaviours in 209 chronic patients with fibromyalgia, Camerini, Schulz and Nakamoto (2012) found that self-management practices do not mediate the relationship between health literacy, psychological empowerment and health outcomes. The analysis of health literacy and psychological empowerment showed that they were strong predictors and have direct effects on health outcomes. The results stress a need to focus on ‘self-management', and more on what leads patients to become more health literate and more empowered (Camerini, Schulz and Nakamoto, 2012). Thus, this particular study suggests that individuals combined cognitive (HL) and psychosocial (PE) capabilities are associated with health outcomes and proposes to explore the mechanisms of this association.

Another study by Camerini and Schulz (2012) tested whether health literacy and psychological empowerment mediated the health outcomes of 165 fibromyalgia syndrome patients who used interactive e-Health applications. Using a pretest-posttest experimental design, they randomly assigned patients to three groups depending on their level of interactivity with the application. They found that the amount of interactivity had no impact on health outcomes; however, both health literacy and psychological empowerment had positive effects on health outcomes (Camerini and Schulz, 2012). A similar study proposed to separate health literacy and psychological empowerment to understand the factors that lead parents to vaccinate their children in Switzerland. They hypothesise that health literacy, psychological empowerment, and seeking health information influences parents' choice whether to vaccinate their children and that the act of vaccination represents a health behaviour (Diviani et al., 2012).

In earlier research, another study was found to hold similar assumptions of independence and interrelationship between two influencers on disease management. The authors studied the kinds of barriers patients face in accessing care and managing their chronic (Jerant, Friederichs-Fitzwater and Moore, 2005). The study investigated transcripts and participants' statements from focus groups about barriers to active self-management in CD. Interestingly, they found that disease management can be categorised into four types based on their perceived level of control (PLoC) and self-efficacy (high PLoC/high self-efficacy, high PLoC/low self-efficacy, low PLoC/high self-efficacy and low PLoC/low self-efficacy). However, the conclusions that Jerant et al. (2005) drew are speculative because self-efficacy and perceived level of control were not measured outright; instead, turned-up in the discussion post empirical work. Nevertheless, the authors recommended that baseline assessments of PLoC/self-efficacy interactions should guide self-management support interventions in chronic disease patients. This recommendation is consistent with the method used in this study to categorise patients into four groups of CD management based on their levels of health literacy and psychological empowerment to guide exploration of their mechanisms on health behaviour.

The confusion around health literacy and psychological empowerment and gaps in knowledge about the mechanisms that lead to higher health literacy or psychological empowerment does little to help understand those cases where there is a mismatch, where patients can be highly empowered while lacking health literacy, or where patients can be health literate while perceiving themselves as incompetent or helpless. According to Schulz and Nakamoto (2013), patients with unequal levels of health literacy and psychological empowerment have the potential to develop risky behaviours or dependence on healthcare services. This statement is important since recognition of this mismatch could help identify other possible effects of health literacy and psychological empowerment, and it could go a long way in helping to explain other dimensions of the behaviour of patients who suffer from CDs.

Health literacy and psychological empowerment are distinct concepts, although it is common to find discussions that conflate these two capabilities in the health field research (Tsay and Hung, 2004; Von Wagner, Steptoe, Wolf and Wardle, 2009). The view of the two concepts as distinct capabilities of patient health management challenges the commonly held view that health literacy is somehow a cause or a tool that necessarily empowers patients to engage in their health. This conflationary view is problematic rather than practical because it assumes an individual cannot be empowered and make health decisions unless they are health literate (Schulz and Nakamoto, 2013). Health literacy and psychological empowerment are independent and equally significant capabilities which each help to determine the quality of health behaviour in their own way. With this in mind, Schulz and Nakamoto (2013) suggest that the two concepts should be separated analytically, arguing that patients can have different developments and manifestations in each concept. In their article, the authors conceptualised four diverse patterns of hypothesised patient behaviour, as illustrated in their Health Empowerment Model in (Table 7) (Schulz and Nakamoto, 2013).

Table 7: Health Empowerment Model Hypothesised Patients Behaviour (Schulz and Nakamoto, 2013)

		Psychological Empowerment	
		Low	**High**
Health Literacy	**High**	Needlessly Dependent Patient	Effective Self-manager
	Low	High-needs Patient	Dangerous Self-manager

The authors maintain that although health literacy and psychological empowerment might have an association; however, health literacy should not be interpreted as causative of psychological empowerment. This research aims to establish that these capabilities interact with each other differently (dependent on their position as high/low health literacy or high/low psychological empowerment) in a way that affects the quality of health choices and behaviour.

In Schulz and Nakamoto's model it is possible to categorise patients into four possible groups according to their levels of health literacy and psychological empowerment: (1) empowered patients with high levels of health literacy (2) patients who are dependent on healthcare services with low levels of literacy (3) patients who are self-managers while lacking health literacy (4) patients who are dependent despite being health literate. This study employs qualitative methods to examine the mechanisms generated within each group in the model that may explain their pattern of behaviour.

With a similar perspective on the relationship between health literacy and psychological empowerment, Eyüboğlu and Schulz (2015) conducted an empirical study that aimed to assess the impact of health literacy and psychological empowerment on diabetes self-care behaviour in patients in metropolitan Turkish diabetes centres. The authors applied the Health Empowerment Model, which views that interventions to promote health literacy without consideration to psychological empowerment dissipate health resources while promoting empowerment when patients are not health literate may have adverse consequences to health behaviour.

A cross-sectional study was conducted on 167 patients over the age of 18 from one of two diabetes clinics in a major Turkish City. The researchers provided patients with self-administered questionnaires. Eyüboğlu and Schulz used a battery of different instruments to measure functional health literacy, psychological empowerment, self-care and level of diabetes knowledge. The study had surprising results because according to the authors, health literacy was found to have no impact on self-care behaviour; instead, psychological empowerment was linked to perceived self-care behaviours, especially in terms of self-determination and impact. The researchers also found that knowledge related to psychological empowerment but not health literacy. These findings point to the importance of considering both health literacy and psychological empowerment to examine how patient use each capability to advance their agency. In this case, it seems that diabetes self-care behaviours are easily understood by patients, so health literacy is not impactful on their self-care. Eyüboğlu and Schulz (2015) suggest that higher cognitive abilities are not required to understand the advice or instructions given by healthcare professionals on self-care in the context of this study. The authors continue to theorise that health literacy might be more effective in clinical decisions while psychological empowerment might exert a stronger social influence on habitual health behaviours.

This research is relevant because it shows that health literacy and psychological empowerment developments are not necessarily dependent, and that each capability should be examined in its context and for its influence on health behaviour. Health literacy and psychological empowerment are equally significant capabilities with mechanisms influencing health choices and behaviours, and they interact depending on where each capability falls on its continuum (Diviani et al., 2012; Schulman-Green et al., 2016). Schulz and Nakamoto's model of the four groups based on health literacy and psychological empowerment levels is useful to explain the patterns of health behaviour. The model has been applied to e-Health interventions and studies on CD patient self-management, as well as several other contexts (Schulz and Nakamoto, 2013; Moreno and Schulz, 2015). HEM asserts that health literacy and psychological empowerment are mechanisms that influence how patients deal with the demands of their CD and produce health behaviour. Therefore, this study explores the behaviour of patients and the agency mechanisms of health literacy and psychological empowerment that generate health behaviours, but also includes the influence of structure on health behaviour. The following section briefly explores the mechanisms of structures and their influence on the development of patient capabilities to improve health behaviour.

2.3.3 Structures in Chronic Disease

Equally important are the structures and how they influence agency or become influenced by it. Substantive and explicative accounts on chronic disease patient health behaviour urge to employ the interplay of structure and agency as mutually established. The relationship between agency and structure in critical realism was developed in Bhaskar’s transformational model of social action and later in Archer’s (1995) morphogenetic model. Archer’s model operates on the assumption that agency is affected by the structures while structure is shaped by the agencies that aim for change (Elder-Vass, 2007a). The diachronic interrelationship between structural and agency factors may create gaps in management and increase tensions between structure aims for stability and agency aims for change.

For example, the dynamics of health literacy and psychological empowerment practices can be influenced by structural power to constrain patient ability to make informed choices. Nonetheless, some patients can overcome such constraints because of effective agency (Harwood and Clarke, 2012). Therefore, the study of the interplay of structure and agency is essential to explain why some patients can overcome the power of structure while others struggle to care for their health. This might come down to the variations in individual characteristics or social circumstances.

There is a need to consider the structural influences in addition to agency influences on health literacy and psychological empowerment capabilities development. Shaw et al. (2009b) showed a similar perspective and pointed to how structures may shape patient morbidity and mortality in ways unrelated to the knowledge patients have about their disease or adherence to disease management protocols. The wider socioeconomic status is a known structure that has a significant influence on behaviour through other structures, such as: living conditions and income, opportunities to attain education or health services (Murrell and Meeks, 2002; Macinko, Shi, Starfield and Wulu, 2003; Spigner, 2007; Mirowsky and Ross, 2015; Heo, Moser, Chung and Lennie, 2017).

These structures have a profound effect on health, both at the individual and community level (Fritzell, Nermo and Lundberg, 2004; Evans et al., 2008; MacDonald et al., 2009). Socioeconomic status influences health behaviours through any number of multi-layered factors; for example, resources and access, social class, housing and financial position, and education (Howard, Sentell and Gazmararian, 2006). In all nations where information is accessible, mortality appears to be higher among those in less advantaged financial positions (Marmot et al., 2008). Also, poor health outcomes are apparent among individuals who live in hindered social conditions (Kilbourne, Switzer and Hyman et al., 2006), which may be related to lack of resources to improve delivery of health services (Institute of Medicine, 2001).

The interrelationship of these different negative forces influences health behaviour such that patients show signs of poor health management. In a study examining the associations between socioeconomic measures and health behaviour among middle-aged people, Lynch, Kaplan and Salonen (1997) show that poor financial conditions, low levels of education and labour employment are consistently related to detrimental health behaviours. However, socioeconomic factors of individuals are not as influential as the socioeconomic status in a community which is usually affected by a lack of healthcare support (Fitzpatrck et al., 2015). Some of these structures, such as unavailability of resources and improper health support in the healthcare system, can predispose individuals to a high likelihood of behaviours that are detrimental to their health (Uchino, 2006). Other structures impacting on health relate to the ways the surrounding environment contributes to patient health behaviour through the subtle influences of sociocultural practices.

Social and cultural factors also play a role in how CD patients manage their conditions. Twaddle and Hessler (1977) describe the sociocultural influences on patients to behave according to the social expectations of patients diagnosed with a CD as the ‘social label' of disease. In his landmark study on social stigma, Goffman (2009 [1963]) discusses the stigma attached to individuals who deviate from societal standards by fellow members of society. He shows how this influences all other aspects of an individual’s social status and may compel them to conform to societal standard.

Furthermore, social expectations and normalisation affect how an individual behaves. This explains why chronic disease patients accept behaviours believed to be representative of sociocultural standards. However, society's expectations of patient behaviour are not always congruent with what is best for the patient (Cockburn and Pit, 1997). From a sociocultural perspective, some patients may accept the constraints of being socially labelled while other strive to change their lives and break the constraints imposed by social factors.

Creating a culturally sensitive environment might be a more effective way of improving health (Ehrlich, Kendall, Parekh and Walters, 2016). Ehrlich et al. argue that it is essential to explore the cultural influences that underpin activities within healthcare and health education encounters. In essence, health behaviour and lifestyle choices made by patients are affected by the structural and cultural influences that make up the social world, the roots of which should be further investigated (Serour et al., 2007).

This exploration of health behaviour helps reveal social structures embedded within the culture of the chronic disease world and the inhibitors that lead patients to adopt poor health practices. Besides, it illustrates the healthcare culture and the embedded sociocultural influences on health choices to describe the daily realities that chronic disease patients face in health management (Cockerham, 2005). Therefore, a focus on how patients use their capabilities against powerful structures and how they overcome or succumb to these barriers in health management is essential to understand patient behaviours. Thus, this study seeks to identify the mechanisms that may explain why health literate and empowered patients may be more successful while others in the same context are less successful at applying these capabilities.

2.4 Chapter Summary

This review of the literature was completed following critical realist principles. The critical realist review was useful in its focus on the analysis of social practices of health literacy, psychological empowerment and health behaviour. The critical realist review method used also broadened the theoretical background literature and allowed a theory to develop regarding the relationships between health literacy and psychological empowerment, and their influence on health behaviour in CD patients. The chapter was structured to answer the questions raised during the review and logically link the constructs of CD patient behaviour to create a theoretical orientation on the problem of patient health behaviour.

The first section presented the theoretical context of the research topics, followed by empirical evidence on the links between health literacy and psychological empowerment as capabilities influencing patient health choices, and their interaction with the surrounding structure. In addition, considering the underlying ontological and epistemological assumptions of CR about health behaviour signifies a theory of causation to explore mechanisms of health literacy and psychological empowerment and increase knowledge on the problem of health behaviour (Danermark, 2002).

The theoretical context began to form when the Health Empowerment Model was adopted to specify the relationship between health literacy and psychological empowerment. Sen's capabilities approach was selected to relate influences of health literacy and psychological empowerment development to the available social opportunities for growth in addition to individual skills influence patient capabilities (Sen, 1992). Therefore, I demonstrated how health literacy and psychological empowerment can be seen as distinct capabilities developed in chronic disease patients and situate their links to function effectively in health management. In connection with social theory, Archer's (1995) morphogenetic sequence is selected to break down the social dynamics of structure and agency and identify causative mechanisms of health behaviour, while Bourdieu’s symbolic capital explained those social dynamics of power. Thus, causation in behaviour in CD patients can be achieved by considering the sequences of the interaction between agency capabilities, health literacy and psychological empowerment, with the influences of structures.

The second section illustrated a gap in the literature of empirical evidence that explicitly applies social theory similar to the assumptions of the study's theoretical context. Only a few studies have examined health literacy and psychological empowerment as distinct capabilities, almost all of which were geared towards quantitative measurements, although many have not clarified their theoretical position on structure and agency. In addition, the literature on the topic in the context of Kuwait does not exist; nevertheless, other related topics were found but were not as epistemologically developed. This section aimed to provide arguments for the research problem, identify gaps in knowledge and inform the development of the research methodology for this study. The empirical literature on health management in chronic disease was critiqued while focusing on examples of the influence of health literacy or psychological empowerment were linked to patient health behaviour. Also, empirical evidence on health literacy and psychological empowerment independent and interrelated influence on health behaviour was discussed. Alongside the empirical section, social powers and conditions were pointed out, and their influence was noted. Finally, three critical structures in the CD context were pointed out with evidence of their influence on health

This chapter listed several pending questions and calls for further research. Although conceptualisations about health literacy and psychological empowerment's theoretical positions and perspectives on empirical analysis are available, there are gaps in the empirical literature. Unfortunately, there is a lack of empirical data to pinpoint and understand how these two distinct capabilities interrelate and how they operate as generative mechanisms in health behaviour. There is a noticeable gap in the literature relating to studies concerning health literacy and psychological empowerment as distinct concepts in their own right. To mention but a few questions: Why would practices of health literacy or psychological empowerment vary between patients within the same healthcare context? What leads to such a strong correlation between health literacy and psychological empowerment with health outcomes? How does the power of the HCS influence patient behaviour? Most importantly, there is a little contribution from the CR perspective on the topic of health literacy and health behaviour. Most of the empirical evidence lacks a model of generative causation in its methods or findings, and quantitative correlations and predictions form the majority of the existing studies.

This study is focused on the agency of the CD patient as it interacts with structures in the healthcare context. Health literacy and psychological empowerment may occur at levels that best illuminate the gaps in how patients exercise agency and where structures and status quo enable or restrain patient choices and behaviour. Also, the interactions that help people bring about these capabilities may be vital in understanding how patients make choices in health behaviour. What factors lead to health literacy, and what factors lead to PE? What structural conditions restrain patient health choices in this regard? I address these questions in searching for the mechanisms generated by health literacy and psychological empowerment that influence CD patient health behaviour. This research seeks to answer these questions to provide empirical evidence for the theoretical context developed for this study and bridge knowledge gaps in CD patient behaviour.

The theoretical context of the study guided the development of research design and the methods employed to investigate the topics. Also, it specified the relationships between the research topics and helped create a model that provided a theoretical lens to analyse the collected data. The next chapter details the method and methodology employed in the research study.

CHAPTER 3: Methods and Methodology

3.1 Introduction

This chapter presents the philosophical underpinnings and research methods employed to answer the research question, which relates to the mechanisms by which health literacy and psychological empowerment influence patient health behaviour. The aim and objectives of the study are presented first, followed by the theoretical model of the research study, and the epistemological assumptions and conceptual framework to provide structure to the study and clarify the nature of the relationships between the study's topics (Maxwell, 2012). Each step of the scientific research method is discussed to clarify the procedures for situating the findings within the body of knowledge (Polit and Beck, 2008). This involves discussing decisions and explaining procedures related to the selection and development of mixed method design, sampling technique, data collection and analysis, and the study's scientific rigour and ethical considerations. Besides, discussing the rationale and justification of selection or development of research procedures are presented, which helps in outlining the research strengths and limitations.

3.2 Purpose, Aim and Objectives of the Research Study

3.2.1 Purpose and Study Aim

The primary aim of this study is to understand CD patient experiences in health behaviour, by exploring health literacy and psychological empowerment as mechanisms that influence patient health behaviour in different ways (Schulz and Nakamoto, 2013). The secondary aim is to identify the influences of health literacy and psychological empowerment in patients with CD in Kuwait, as an initial study of the concepts in a new context and country.

An understanding of CD patient behaviour and their health-related needs offers knowledge about the role of both concepts and the mechanisms by which they influence patient health behaviour. For healthcare professionals, such an understanding of CD patient behaviour may further improve communication techniques by addressing patient health behaviour and helping develop specific interventions and education materials for CD patients. The study findings can also help inform synthesis of future healthcare strategies that are tailored to meet CD patients' needs and concerns, to improve patients ability to use and apply health information, and to promote patient involvement in their healthcare. Specifying objectives of the study is a step towards actualising the study's aims to answer the research questions.

3.2.2 Objectives

The following quantitative and qualitative objectives are specified to help bridge the knowledge gaps identified in the literature review and answer pending questions to explain causality in the behaviour of patients with chronic disease. There are three quantitative objectives and two qualitative objectives presented in the next two paragraphs.

The first quantitative objective is intended to measure levels of health literacy and psychological empowerment in the sample for two reasons. First, to identify primary data about the levels of health literacy and psychological empowerment of CD patients in Kuwait. Second, to help categorise four groups of patients for further qualitative explorations on health-related choices and behaviour. The second quantitative objective considers the type of relationship between health literacy and psychological empowerment by measuring their correlation in patients with CD in Kuwait. The objective answers questions about claims that health literacy accounts for psychological empowerment and to support the theoretical model view that health literacy and psychological empowerment are distinct. The last quantitative objective intends to categorise the distributions of health literacy levels with psychological empowerment levels into four groups. This objective quantifies the relationship between health literacy and psychological empowerment levels to test their independence, and therefore, provides empirical evidence on their interrelationship of health literacy and psychological empowerment. Which helps to specify the proportions of CD patients in each of the four groups of different health literacy and psychological empowerment levels.

The first qualitative objective explores CD patients experiences and perceptions of health management behaviour by employing qualitative methods and semi-structured interviews. The other qualitative objective identifies the mechanisms of health literacy and psychological empowerment and their influence on CD patient health behaviours. This objective is discussed using the explanatory model of generative causation to present identified findings in a systematic and structured manner. Thus, the next section discusses the theoretical model of the study to guide the researcher in answering the research objectives.

3.3 Theoretical Model of the Research Study

The application of epistemological assumptions to research strategies allows researchers to adopt methods suitable for the process of discovering knowledge and connecting findings. There are various methods used to gain knowledge: the research's theoretical model should reflect the methods, objectives and purpose of the research. Therefore, researchers should be open to applying different methods and paradigms when searching for knowledge to answer research questions adequately.

A central objective of this research study is to methodologically explore the interrelation between the mechanisms of health literacy and psychological empowerment that influence behaviours in CD patients. CD patients experiences in the Kuwaiti HCS context will be examined, in addition to other structural power mechanisms. Thus, the researcher can effectively examine and evaluate the nature and magnitude of these mechanisms and produce knowledge claims that describe CD patient health behaviour. This objective entails a process of data gathering and analysis to arrive at sound knowledge. Therefore, I draw on theoretical perspectives to engage in a critical analysis of the philosophical issues relating to knowledge synthesis. This is essential to situate the study within the body of literature and to provide context to the knowledge about health literacy and psychological empowerment influence on patient health behaviour. It is important to apply the aforementioned epistemological assumptions to identify relationships between the researched concepts in order to structure the study in a theoretical model.

3.3.1 Relationships in the Theoretical Model

A conceptualisation of the relationships between the main concepts is useful to develop a theoretical model of this study. The model guides the analysis of collected data and provides a perspective on the findings to theoretically situate the knowledge claims within the existing body of literature. The theory of the study seeks to generate an explanatory model that relates the causal mechanisms in CD patient health behaviours.

Congruently, CR is concerned with the causative mechanisms which generate observable events; thus, the social world can be better understood if the mechanisms that generate such observable events are identified. This is important in the research context because it allows researchers to identify relationships and distinguish between the actual event, the conditions and the causative mechanisms. The aim for identification of causal relationships along with the philosophical underpinnings of CR led to developing a proposition to empirically examine the assumption that health literacy and psychological empowerment, as health capabilities, generate mechanisms that influence management behaviour.

Another assumption is the possibility of identifying other mechanisms by inferring their influence on observed events. This conjunction between the structure and agency framework and critical realism philosophical underpinnings is the foundation of the theoretical model. The model serves as a guide to produce plausible accounts about the mechanisms of the relationships between health literacy and psychological empowerment on the one hand, and health behaviours on the other.

By applying CR to the study and the theoretical framework of structure and agency, ontology is being emphasised to offer a useful approach to exploring the domain of the real. The conduct of scientific work using this philosophical approach applies to identify the real experience as an experience that produces actual events in the world (Danermark, 2002). CR and the structure and agency framework allows the researcher to conceptualise a relationship and find a link between what is known to exist and the domain of the real where mechanisms can generate phenomena (Sayer, 2000). In other words, existing research studies suggest that health literacy or psychological empowerment correlate with health behaviours and outcomes. However, within the realist approach, the domain of the real is applied in the context of CD to explain why these correlations exist and understand the powers that initiate the problem of health behaviour.

Different philosophical approaches can be applied to scientific research in the social or behavioural sciences. However, the critical realist approach was adopted as the philosophical background for this study's methodology in order to answer pending questions and bridge identified gaps in the literature. The next step after building a model for the study is to develop a particular research design to facilitate the collection of reliable data.

3.4 The Development of the Mixed Method Research Approach

Whereas studies within health sciences adopt various methods to investigate encountered phenomena, the researcher's selection of combining quantitative and qualitative research approaches stems from the theoretical inclinations and beliefs of the best method to tackle the research questions (Polit and Beck, 2008). The selection of mixed methods design was based on the fact that all methods have limitations; however, in their convergence, some of these limitations can be addressed to produce sound knowledge claims (Creswell, 2009).

Furthermore, the design of this mixed method approach, along with a theoretical model offers a method to the particular research problem in its ability to provide causal explanations of patient behaviour. According to Tashakkori and Teddlie (1998), findings from quantitative methods can be studied in further depth through qualitative methods. Precisely for this exploratory study, the quantitative phase aims to identify patients levels of health literacy and psychological empowerment. However, the research question is more qualitatively oriented since interviews can provide an exploratory account of the nature of health management experience and the magnitude of the influence of being in a particular group on health behaviour.

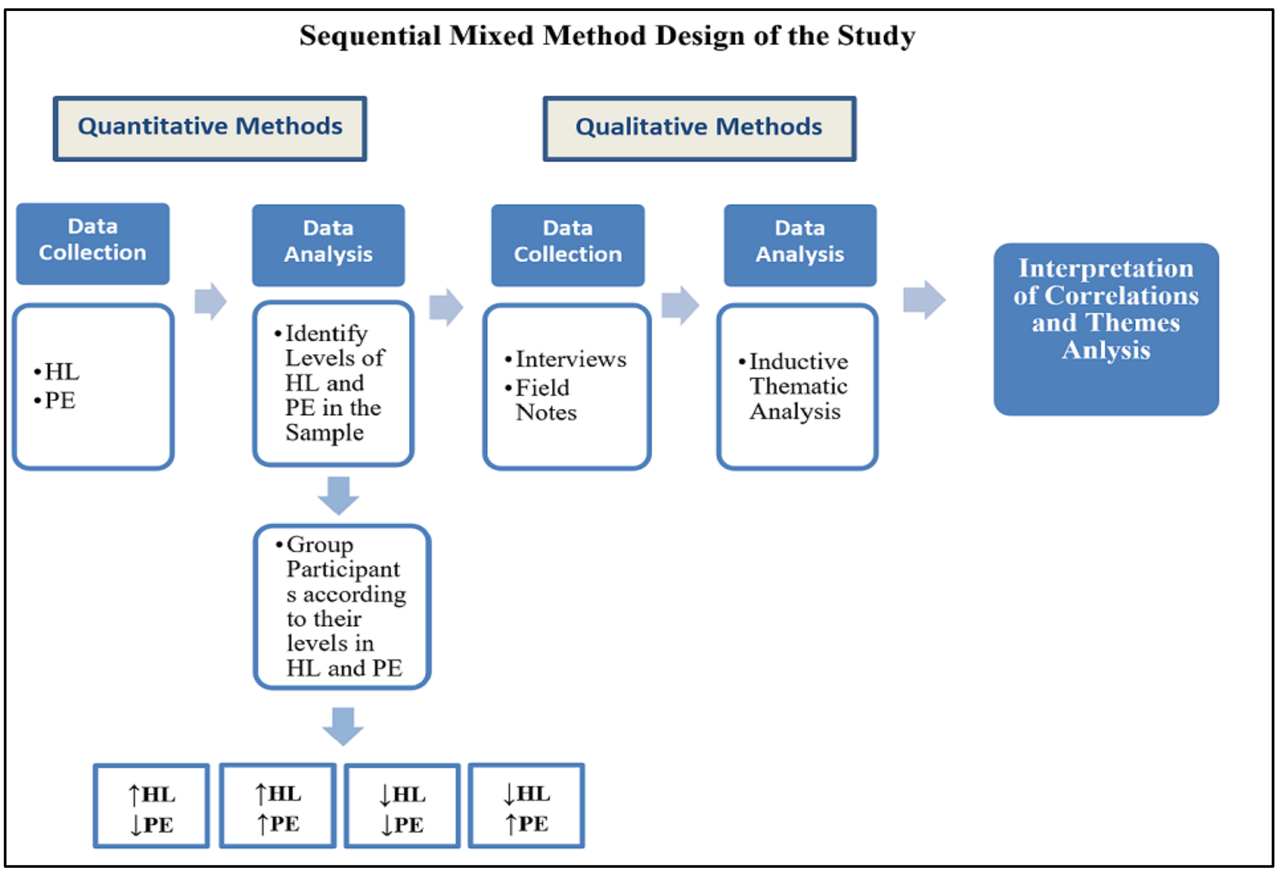
In addition, structure and agency contribute to the development of the framework which outlines the relationship between the research topics. CR has oriented the development of the mixed method design, since CR’s stance on methodological pluralism permits researchers to employ existing epistemological methodologies, quantitative and qualitative, in different ways to arrive at knowledge in the intransitive dimension (Lipscomb, 2008).

The quantitative methods showed strength in assessing levels of health literacy and psychological empowerment, and in the ability to accommodate a large sample. Power analysis estimates that in order to detect an effect size of 0.20 with power equal to 0.80 at $\alpha = 0.05$, the sample size has to include 197 participants. Although a sample size of 197 was sufficient, the second qualitative phase required more interviews and more recruitment of participants which have increased the sample size. The sample in this study was 245 participants and more than the suggested size by power analysis; thus, adequate to reflect the effects of the phenomenon.

A large sample provides a clear picture of population distribution and increases the probability of identifying patients with different levels of health literacy and psychological empowerment. In turn, this enables the allocation of participants into one of the four groups. Nonetheless, quantitative data are limited in addressing exploratory research questions; therefore, qualitative methods are applied to neutralise this limitation. Qualitative methods are useful to perform an in-depth exploration of the problem and provide an account of generated mechanisms and their effects, in addition to exploring unknown related mechanisms.

The study followed a sequential mixed method design, still, the qualitative phase remains the core of this research study. The second phase of the research is concerned with interviews, a questionnaire was initially used to recruit participants and to provide detailed profiles of each group of interviewees. First, quantitative methods were used to collect data in order to identify participants' levels of health literacy and psychological empowerment. Furthermore, the purpose of the quantitative approach was to identify the relationship between health literacy and psychological empowerment in the sample. The quantitative part of the research also measured correlations between health literacy or psychological empowerment with individual characteristics

Figure 5: Sequential Mixed Method Design of the Study



and demographics. In order to specify proportions of high and low levels of health literacy and psychological empowerment, the measurement scales of health literacy and psychological empowerment were converted from ratio to categorical variables. Thus, identification of health literacy and psychological empowerment dichotomous proportions of high and low levels helped to create the four groups.

Second, the research question was further explored through interviews with participants selected from the quantitatively created groups (Polit and Beck, 2008). The data collection method of the qualitative phase used cross-sectional semi-structured interviews to explore participants' experiences and perceptions in the healthcare system. The qualitative data collected from the identified four groups were analysed to identify the influence of the mechanisms of health literacy and psychological empowerment on health behaviour in each group and were compared to explore whether different mechanisms or effects on behaviour exist. Figure 5 illustrates the steps of the mixed method design of the research study. The selected research design to answer the research questions can influence the sampling procedure. The following section describes the sampling techniques used to recruit participants that best serve the purpose of the quantitative and qualitative phases of this study.

3.5 Sampling and Inclusion Criteria

This study aims to explore the health behaviour of patients with chronic disease in the Kuwaiti HCS with an emphasis on the influence of the interrelation between health literacy and psychological empowerment. Therefore, the sampling design was planned to locate and recruit patients from the general chronic disease patient population in Kuwait. As mentioned earlier, the Ministry of Health provides the majority of health services in Kuwait (WHO, 2006), and healthcare delivery in the public sector is organised into six health regions. Therefore, to achieve a sample representative of the population and to be able to generalise the quantitative findings, the researcher collected data from the population in all six health regions of Kuwait.

The sampling design in the quantitative part of the study followed a nonprobability convenience sampling method in multiple settings and locations, allowing the identification of people who met the eligibility criteria. Participants were recruited from the waiting areas of primary clinics and in/out-patient hospital departments. Since most CD patients use healthcare services to manage their chronic disease, the settings were selected carefully to ensure the presence of CD patients. For example, patients visit primary clinics regularly for medication refills or specialist referrals. Recently diagnosed CD patients and follow-up patients also usually attend out-patient clinics for regular check-ups, while patients experiencing moderate complications from CD are likely to be admitted to in-patient hospital wards. Additionally, a convenience sampling design has limitations, and it was selected because it is difficult to obtain a sampling frame of all eligible patients, due to matters of the impracticality of locating patients in specified settings and costs to hire assistants.

The inclusion criteria for the participants were:

- Chronic disease diagnosis, as the disease management demands of this population, is mostly linked to health literacy and psychological empowerment (Angelmar and Berman, 2007).
- Adults over the age of 40, since CD and inadequate health literacy are associated with older age (Kutner, Greenberg and Baer, 2006).
- Males and females who are living in Kuwait and can read and write in Arabic, so that they are sufficiently literate to fill out questionnaires, bearing in mind that the ability to read and write does not necessarily mean a patient is health literate.

Patients were excluded if they were in experiencing severe medical or mental health conditions requiring intensive medical monitoring or treatment, or if they were blind or hearing-impaired, as this would affect their ability to participate in the study thoroughly.

Although the eligibility criteria may render the sample relatively homogeneous; however, including participants from multiple sites and settings contributed to the sample's variability and generalisability. The sample reflects the demographical distribution of participants. Besides, patients' individual characteristics confer sufficient variability to bring the patients responses and the findings closer to a representation of the general population of CD patients.

Power analysis can be used to reduce the risk of making a Type II error, which is failing to statistically detect an effect or a finding when it exists (Banerjee et al., 2009). Power calculations were performed to estimate the necessary sample size that would yield statistically significant findings. In order for the researcher to perform power analysis, effect size must be determined. Effect size can be determined by empirical evidence from previous studies; however, very few studies have examined the combined variables (Diviani et al., 2012). As an alternative solution, effect size selection can be based on the average of the empirical results within the discipline, which is 0.20 for correlation results in nursing studies (Polit and Beck, 2008).

All participants were allocated to one of the four quantitatively specified groups of high and/or low levels in health literacy and psychological empowerment. Thus, a purposive sample of 20 was drawn from the original sample of participants who agreed to meet for an interview. Based on the scope of the research question and informational needs, a small sample size was expected to be adequate to reach data saturation. Participants were planned to be selected based on their group to reach an equal number of participants for each group. Although an equal group size would yield credible data about each group; however, it is essential to reach data saturation. Also, it was difficult to project the number of participants who would agree to be interviewed; therefore, it was expected that the size of the groups might differ.

An issue considered during data collection planning was the possibility of having a low number of participants agreeing to meet for an interview in one or more groups. Many participants have agreed to meet for an interview by ticking a box in the questionnaire set; however, most of them belonged to groups with high patient empowerment where data were saturated. Patients who agreed to an interview in the questionnaire set were contacted to encourage them further to participate in the interview, these patients belonged to the two groups of low empowerment and either low or high literacy. The majority of contacted participants had excused themselves from arranging an interview because they reported themselves to be tired, busy or in a hurry to leave the clinic. Unlike low empowerment patients, those with high empowerment had higher rate of agreeing to participate in the interviews. The discrepancy in the participatory behaviour between high empowerment groups in contrast to low empowerment groups implicates the influence of empowerment on patient participatory behaviour.

Quantitative instruments and qualitative semi-structured interviews are described in the next section to detail the methods used to collect data about the research topic. In addition, data collection strategies are also incorporated for each phase of the methods,

3.6 Methods

3.6.1 Quantitative Instruments

The quantitative data were collected using questionnaires translated from English into Arabic. A formal procedure is followed to preserve the meaning of items in the translated instruments (Streiner and Norman, 2008). Instruments translated by the researcher were compared to another translated version by a professional in the health field, who is fluent in both languages, and then both translated instruments were revised and integrated. Revisions were also made to consider cultural specificity but with strong attention to internal reliability and validity of the questionnaire as it stands in its original version. The researcher was available during the completion of the questionnaires to help participants and answer their questions. One set of questions surveyed demographical data, such as: age, gender, nationality, educational level, marital status and income level (Appendix A). Followed by an assessment of the level of functional health literacy using the Arabic version of Chew's health literacy screening questions (Appendix B).

The most frequently cited assessments of health literacy are the Test of Functional Health Literacy in Adults (TOFHLA) (Appendix C), the Rapid Estimate of Adult Literacy in Medicine (REALM), the Health Activities Literacy Scale (HALS) which is a 191 item and not intended for use in clinical settings (Martensson and Hensing, 2012). TOFHLA was developed in 1995 and has been frequently and successfully tested for validation and serves as a standard to assess newly developed instruments (Collins, Currie, Bakken et al., 2012; Lee, Stucky, Lee et al., 2010). It is available in English and Spanish and has been used to assess a variety of patient population (Parker et al., 1995; Baker, Williams, Parker et al., 1999; Nurss, Parker, Williams et al., 2001). The short version (S-TOFHLA) was developed to increase practicality in the clinical setting as it can be self-administered within 7-8 minutes (Collins et al., 2012).

S-TOFHLA was planned to measure health literacy levels in this study using a translated to Arabic S-TOFHLA; however, the instrument was not specific to the healthcare context in Kuwait and modifications to its items would have risked its reliability and validity. Therefore, the Chew's HLSQ was sufficient to measure health literacy in the intended context of the study in Kuwait, because The HLSQ is found to be the best available measure of functional health literacy for its broad measurement scope, properties and advantages over other instruments (Al Sayah, Williams and Johnson, 2012).

Chew, Bradley and Boyko (2004) developed 16 Health Literacy Screening Questions (HLSQ) to measure self-reported health literacy skills indirectly. The development was based on a qualitative analysis of patients with limited health literacy. Further statistical analysis of the screening questions yielded three specific screening self-rating questions that have been shown to identify patients with low levels of functional health literacy (Chew, Griffin and Partin et al., 2008). Moreover, in a semi-structured interview with clinic patients, participants indicated that Chew's questions were generally acceptable, particularly if asked in a private setting (Chew, Bradley and Boyko, 2004; Wallace et al., 2007). Chew's 16 Health Literacy Screening Questions (HLSQ) were originally designed to test all levels of health literacy, functional, interactive and critical. However, the three brief screening questions were ideal for measuring functional health literacy as they demonstrated proper reliability levels and correlation with both REALM and TOFHLA (Chew et al., 2008; Frisch, Camerini, Diviani and Shulz, 2011). The brief HLSQ makes it suitable for surveying patients in the clinical setting, as well as the added benefit of flexibility of administration. HLSQ only takes 1-2 minutes to complete, and it can be either self-administered or researcher administered (Chew et al., 2008; Farrell, Chandran and Gramling, 2008).

The third part of the questionnaire measured psychological empowerment using the scale proposed by Spreitzer's (1995), Psychological Empowerment Instrument in the workplace, adapted to the CD context (Diviani et al., 2012) and translated into Arabic. The instrument has been used successfully in more than 50 studies in various contexts (Matthews, Diaz and Cole, 2003; Hochwälder, and Brucefors, 2005; Uner and Turan, 2010). The validity of the instrument is proven as the validity estimates for the four dimensions of the instrument are typically around 0.80, and test retest-reliability is strong (Spreitzer, 1995). The instrument reflects the multidimensionality of psychological empowerment, which is a combination of meaning, competence, self-determination and impact. Psychological empowerment was assessed by measuring the mean of 12 items in the four dimensions, three items covering each for each psychological empowerment dimension (Spreitzer, 1995) (Appendix D). The demonstrated internal reliability and validity in a variety of social contexts and particularly in the chronic disease context, make this tool useful for assessing psychological empowerment in this study. Each item is measured on a 7-point Likert-scale ranging from strongly disagree to strongly agree. The following are examples of items in each dimension:

- Meaning:
  'My disease management activities are personally meaningful to me.'
- Competence:
  'I have mastered the skills necessary to manage my disease.'
- Self-determination:
  'I have considerable opportunity for independence in how I manage my disease.'
- Impact:
  'I have a significant influence over what happens in my health.'

One purpose of the quantitative phase is to recruit a large number of participants and allocate them to one of the proposed four groups. Therefore, the results of both questionnaires were dichotomous and categorised as either low or high levels, so that according to participants' performance on both questionnaires, a participant can be allocated to one of the groups.

3.6.2 Collection of Quantitative Data

Data collection in the quantitative phase was comprised of collecting participants' questionnaire sets directly after completion. Some patients in primary clinics deposited enclosed questionnaire sets at the reception desk in their primary clinics. At the time of analysis there were 630 questionnaires printed and handed out, only 38.9% (n = 245) were valid for entry into the data set and 13.8% (n = 87) were missing crucial data and therefore were discarded, while unreturned questionnaires were 47.3% (n = 298) with a return rate of 52.7%. All data included in the research study were collected from CD patients attending government health services in the state of Kuwait.

The study was conducted in the Kuwaiti Ministry of Health establishments. Sites were chosen to represent all six health regions, providing health services to the entire population of Kuwait; Asema 11.4% (n=28), Hawally 16.3% (n=40), Farwaniya 27.4% (n=67), Sabah 15.1% (n=37), Ahmadi 15.5% (n=38) and Jahra 14.3% (n=35). Every health region's general hospital and at least two primary clinics were covered, those settings were selected carefully to ensure the presence of CD patients. The distribution of patients in these settings was primary care clinics 25.3% (n=62), in-patient medical wards 53.5% (n=131) and out-patient clinics 21.2% (n=52). However, the researcher would return to conduct interviews and distribute more questionnaires, occasionally. Since data collection progressed slowly, out-patient clinics were included as a setting to boost the rate of valid questionnaires. Including out-patient departments as a recruitment site was beneficial in increasing the number of participating patients.

After this point, that participants' role in the quantitative data collection has ended, and purposive sampling began to collect the core data of the study from qualitative interviews.

3.6.3 Semi-Structured Interviews

Cross-sectional data were collected using one-to-one semi-structured interviews of a duration of at least 30 minutes in length. This method of qualitative data collection helps explore participants' attitudes and perceptions of experiences in a reasonably unbiased manner (Gall, Gall and Borg, 2003). The developed interview questions helped to structure the interview and followed a sequence from general to specific concerning each topic of interest (Appendix E). However, the interview always started with an 'ice-breaker' question to ease participants into the interview, followed by broad questions and probes.

Questions were constructed with topics that stem from the health literacy and psychological empowerment perspectives and centred around patients personal feelings and reactions about experiences within the HCS, health-related management, quality of decision-making and participation, and issues related to information about health. This also included patients' beliefs about factors that affect health outcomes, probes on topics that emerged during interviews, in addition to inquiring about participants' responses on their quantitative questionnaires. Flexibility was maintained regarding the length of meetings in case participants required more time to provide their perspectives, to ensure the richness of data.

One-to-one interviews provide means for the researcher to control questioning and allow participants to provide in-depth information. Additionally, the interview technique was selected because observations of participants doing the activities of interest for the research is not feasible (Creswell, 2009). Also, the use of focus groups was found incompatible with the topics to be discussed with participants. Some of the topics in the interviews are sensitive and may invoke distress in some patients, especially when discussed in groups as compared to private discussion with a health professional. Additionally, the role of the interviewer as an investigator in one-to-one interviews may add depth and richness of data compared to the role of a facilitator or moderator in group interviews (O Nyumba, Wilson, Derrick, and Mukherjee, 2018). Nonetheless, the researcher of this study is a professional nurse and experienced in therapeutic communication skills which helps to manage such roles in these interviews. Despite the fact that some topics are incompatible with focus group methods, the use of one-to-one and focus groups interviews in a combination promise access to new and experiential data. Focus group method provides a chance elicit rich data and improves face validity because of participants' interactions which is a key in the focus group method (Krueger, 1994). Nonetheless, participants are from different sites and settings which adds to the difficulties to gather participants from each group in one place and time; therefore, it was infeasible to conduct focus group interviews.

The semi-structured interview approach followed in this research used standardised questions to ensure that all participants were asked the same open-ended questions. Although standardised questions serve as a guide in interviews, the questions were not planned to be asked in the same order. However, the researcher was attentive to cover all the questions and topics of the interview guide in each interview. Semi-structured interviews were effective in steering the interview to have participants communicate their feelings and experiences in their own words and provide rich information about their perspective on specific topics, while allowing the researcher to probe for further details to elicit their views and perceptions (Gall, Gall and Borg, 2003). Besides, follow-up questions were prepared to keep participants focused on responding in detail to the question (Creswell, 2007). McNamara's (2009) recommendations were followed to help saturate data and minimise biases due to the presence of the researcher. This approach entails using open-ended questions so that participants use their own words and terms, using neutral questions and avoid influential wording, asking questions one at a time, using words that are known and particular to participants' culture, and being vigilant when asking 'why' questions.

3.6.4 Collection of Qualitative Data

Qualitative data were collected from interviews with participants who were allocated to the four groups of health literacy and psychological empowerment levels. A total of 20 interviews were conducted with a duration ranging from 30 to 75 minutes. The interview venues were left to participants' preferred choice; even so, all of the interviews took place within healthcare facilities in a private and quiet environment.

At the time of the interview, participants were introduced to the purpose of the interview and terms of confidentiality. Participants were thanked for their valuable contribution to the study and encouraged to ask if they had any questions to help decrease nervousness and open channels to build rapport (McNamara, 2009). Additionally, being from the same culture and speaking the same language facilitated connecting to participants and gaining their trust. Participants agreed to audiotape the interview after the researcher explained the interview process and stated the expected duration of the interview.

An audio recording of data ensured information accuracy, verbatim transcription and gave the researcher time to focus on observing and recording descriptive notes. In addition to generating data about participants' perceptions and experience, the researcher recorded reflective notes after each interview and throughout the study process. Furthermore, as notes were revised, and data collection progressed, new ideas and themes emerged; therefore, topics and questions were added continuously and modified with every interview. All of the interviews were conducted without any incidents of psychological stress, as evidenced by patients' expressions of gratitude for their participation. Additionally, many participants stated at the end of the interviews that they felt delighted to have spoken about their experiences and to have a professional listen to them, a few even hoped to have the chance to speak to their healthcare professionals as they had in the interview.

Now that data collection of the quantitative and qualitative method is completed, the next step is to analyse the data under specifically determined procedures. This ensures that data analyses and the resulting conclusions and meanings reflect the collected data in a valid and reliable manner. The following section details the quantitative and qualitative procedures employed to interpret the collected data.

3.7 Data Analysis

3.7.1 Quantitative Analysis of the Questionnaire Set

Patient data analyses of the research objectives and aims were completed using the Statistical Package for the Social Science (SPSS) programme, Windows version 22.0. Data were prepared for analysis and coded using the consultation of a statistician to ensure accuracy of results. All quantitative data collected from the questionnaire set were analysed using descriptive and inferential statistics to achieve the study's objectives. The primary quantitative objective was to investigate the sample's proportions of the four categorised groups according to the dichotomous levels of health literacy and psychological empowerment. Also, patients' demographics and variables were examined for association and prediction relationships using correlation, regression and Chi-square tests.

3.7.1.1 Descriptive Analysis

Participants' characteristics and health information were used to describe the population and to determine demographic predictors of the research variables. Four groups were created by assigning participants to one of two categories to produce an empirical account of the conceptual relationship between health literacy and psychological empowerment. For that reason, health literacy was divided into two categories, low and high according to the instructions of the instrument, with the same being done for psychological empowerment. The data were described using percentages, means and standard deviations for each level. A contingency table was created to cross-tabulate the proportions of participants with specified health literacy and psychological empowerment levels that fell into a low or high level. This contingency table illustrates the likelihood of the relationship between the two variables, in addition to specifying the proportions of the four groups in the sample.

3.7.1.2 Inferential Analysis

The inferential statistical tests help estimate population parameters and draw conclusions about the population of interest by using data comparisons, correlations and predictions (Polit and Beck,

Table 8: Statistical Tests and their Respective Use for the Present Study

Test	Correlation	Comparison	Prediction	E. Variables Control	Predictors
Pearson's r	X				
Correlation Matrix	X				X
Regression	X		X	X	X

2008). Pearson's r correlation test was performed to examine the association between health literacy and psychological empowerment to test the quality of their relationship. A correlation matrix will summarise correlations among the levels of health literacy and psychological empowerment, with participants' characteristics as predictors. Multiple linear regression was also used, assuming that the correlation between the variables is not perfect, which minimises the ability to predict and conclude (Polit and Beck, 2008). Regression was used for its ability to test for predictors of the research variables while controlling other confounders. Table 8 provides a summary of the inferential statistical tests that are used in quantitative data analysis. In all inferential statistical analysis, two-tailed tests were employed, the significance level (Alpha α) set at 0.05, and Confidence Intervals set at 95%.

3.7.2 Qualitative Analysis of the Interviews

There are several approaches to collect and analyse qualitative data, and some of which overlap. The most common qualitative data analysis method used in the behavioural health science is Inductive Thematic Analysis (ITA) (Guest, Macqueen and Namey, 2012). ITA, as a variation of grounded theory, has a key feature that enables building theoretical models or finding solutions to real-world problems. Besides, it shows strengths in supporting interpretations and accommodating large data sets, including non-textual and quantitative data (Guest, Macqueen and Namey, 2012). This approach was used for the qualitative part of this study for these features and strengths. The method entails reading through collected textual data from 20 semi-structured interviews, identifying and coding similar information into categories, and finally interpreting the meaning and relations of the identified themes (Guest, Namey and Mitchell, 2013). The most suitable data collection methods for this approach are in-depth interviews and focus groups since ITA requires the generation of free-flowing data (Guest, Namey and Mitchell, 2013).

Qualitative Data analysis occurred almost simultaneously as the data were being collected. Therefore, throughout data collection and analysis, data and observation notes during interviews were reviewed and incorporated into the analysis (Polit and Beck, 2008). The process of analysis began when participants' responses were transcribed in the original language of the interview to then be translated into English before organising and coding took place. Since the researcher is fluent in both languages, during the translation meaning preservation was sought to avoid confusion resulting from a literal translation of text from Arabic to English (Streiner and Norman, 2008). Qualitative data, transcribed ad verbatim from interviews and translated into English, were entered into NVIVO 10 for Windows Service Pack 6 to organise and code collected data to provide meaning and make sense of data.

The goal of the qualitative part of the study was to explore the influence of health literacy and psychological empowerment as interrelated factors and develop an understanding of patient behaviour. Therefore, participants qualitative responses were analysed to generate codes and themes for each group to compare and contrast all groups. Although NVIVO software helped to organise the raw data, it was mostly up to the researcher to quantify qualitative data and triangulate with the corresponding participant's characteristics, as the software is best at compiling categories and indexing data.

Manual data analysis started with preparing transcribed data and the researcher's reflective notes for each interview, which were regularly reviewed to ensure that the integrity of each interview experience was maintained. In order to obtain a general sense of the information, the researcher read through the data and reflected on its overall meaning (Creswell, 2009). Next, data were manually analysed for explicit and latent content by close reading and re-reading the transcribed text repeatedly in order to code it into categories then and generate themes (Graneheim and Lundman, 2004). Coding helps to bring meaning to information by organising segments of text (Rossman and Rallis, 1998), it involves organising emerging information into categories and themes and identifying relationships from consistent phrases, expressions and ideas that were common among participants (Kvale, 2007). On the other hand, the interview questions were semi-structured from the literature around four main topics that have structural relationships with health literacy and psychological empowerment: health information, healthcare services, decision-making and disease management. Although the data were collected from semi-structured interviews, most patients were found to experience similar influences despite being in different groups. These themes were generated from new issues introduced by participants, beyond the four topics, and probed by the researcher.

The generated themes provided a descriptive narrative of multiple perspectives from participants allocated to each of the four groups, and the researcher attempted to explain the identified themes and make interpretations of the broader meaning of data (Creswell, 2009). In detail, responses from participants in each separate group were organised and coded into themes. Afterwards, the generated themes were further analysed to enable comparison and contrast among all groups to identify issues and highlight similarities and differences in the sample, as well as to provide full descriptions of the context, participants, and observations in the interview experience.

Additionally, the philosophy of CR and the theoretical model of the research helped data organisation and presentation of the findings to explain the causal relationship between the identified mechanisms and behaviours. Finally, the findings were integrated with the literature to strengthen the data, and to situate the findings within the existing body of knowledge. However, such findings must be produced under certain principles the researcher has to follow to improve the validity and credibility of the qualitative methods. The following section discusses the principles the researched had followed to improve validity and credibility of qualitative data.

3.7.2.1 Validity and Credibility in Qualitative Research

Validity and credibility in qualitative research are determinants of approval of the research results, they are concerned with the strength and accuracy of the results (Creswell, 2003). In qualitative methods, there are several procedures that improve validity and credibility which this study has adopted. Such as, following a rigorous process and transparent procedure for data collection and analysis to represent a detailed description of methods and multiple and opposing perspectives.

The researcher also repeatedly enlisted the support of supervisors and other academics to enhance validity, credibility, transferability and reliability of the research study. Specifically, supervisors' validation of research progress was regularly sought as a measure to strengthen the quality of data collection and data analysis procedures (Creswell, 2003). Another followed principle to enhance validity was to be realistic by presenting possible discrepant information from participants that oppose the identified themes and discussing their justifications (Creswell, 2009). Also, reaching data saturation in qualitative research yields extensive information and improves validity. One advantage of the purposive sampling technique in the qualitative phase of this study is that it continued until data saturation was achieved. However, it is worth noting that the number of participants in groups of low empowerment was low in comparison to other groups with high empowerment. Although patients with low levels of empowerment were contacted to encourage their participation in the interview; however, their explicit refusal was used to explain the groups' behaviour.

Additionally, researchers bring their own meanings, motives and perspectives to qualitative research: in the questions being asked, conceptions of the design and interpretations of findings (Maxwell, 2012). CR embraces this subjectivity in an understanding of the inevitability of researchers' involvement in the data being collected and analysed. Hence, CR encourages researchers to recognise past experiences, personal qualities and values that may influence the validity of the results if they were not carefully examined (Maxwell, 2012). Besides seeking objectivity in this research, the inevitability of subjective influences and personal bias in data collection and analysis is also recognised. Therefore, I followed steps to acknowledge the subjective influences I brought to data collection and analysis. An important method in identifying personal biases that may influence interpretations made during the study is to be self-reflective about one's background (Polit and Beck, 2008). To acknowledge the researcher's influences and to give emphasis to transparency, the researcher provided explanations of his role and self-reflective comments about how the researcher's background might influence interpretations. The researcher maintained self-reflective activities throughout the study and reflectively analysed the written statements of past experiences and perceptions related to the topic under study, participants and settings (Creswell, 2009). In addition, recognition of biases and following preventive procedures in planning of the research helped obtain the most credible data that answer the research questions. Finally, qualitative data collection plans usually display flexibility, as decisions about what data are needed evolve during the study, and to maintain transparency the researcher kept a record of decisions made with descriptions of the situations as they evolved.

Furthermore, the findings were reported in rich and detailed descriptions in order to improve credibility and to give a sense of shared experience to inform the reader better (Creswell, 2009). Interviews provide a means for the researcher to control probing and allow participants to provide information. Therefore, to ensure richness of collected data, the interview questions guide was developed based on scrutinised literature on the constructs of the research study, and the researcher had maintained flexibility regarding length of meetings to maximise participants' contributions. In an attempt to enhance the credibility and validity of conclusions, findings were critically examined and integrated with supporting and opposing literature (Polit and Beck, 2008). Another essential activity that adds credibility to the research study is seeking objectivity. The researcher followed McNamara's (2009) interview recommendations to prevent biases due to his presence. The applications of reliability in qualitative methods can be limited (Creswell, 2003); therefore, the researcher documented procedures and research activities and covered aspects of the research framework, setting and context, and observations of study participants to strengthen the reliability and transferability of the study.

In that vein, the fundamental research activities and procedures were documented and presented to ethical committees before the research began. Because following a standardised ethical code in the conduct of scientific research is crucial to preserve participants' rights and to protect them from harm. The ethical aspect of the study is discussed in the following section.

3.8 Ethical Issues and Site Access

The research is conducted by a professional nurse acquainted with ethical standards to preserve the protection of participants' rights. For instance, the right to self-determination was maintained throughout the study by informing participants that they were free to participate or withdraw at any time voluntarily. Participants were also made fully aware of the purpose of the study by giving out verbal and written information that was clear and simple. Data were collected from adult participants' information forms, questionnaires and interviews upon obtaining participants' written consent for the study. Confidentiality and anonymity of participants were preserved by the researcher throughout the study to safeguard participants' identities and information. Besides, the names of the participants were coded by the researcher during data entry. Patients were informed that the information from the questionnaire set and audio tapes are kept in locked cabinets and a secured database.

Furthermore, all of the collected data and anonymous participants' reports are strictly used for the benefit of this study alone. As a measure to maintain comfort and encourage participants before interviews, patients were introduced to the purpose of the interview, terms of confidentiality, and were praised for their contribution to the study (McNamara, 2009). The study carried no apparent physical risk to participants since it is a study designed without interventions, and the interview questions were not expected to evoke emotional distress in either the participant or the researcher. Nonetheless, Holloway (2005) emphasised the emergence of feelings of distress if the subject under study is sensitive to the interviewee. Since feelings of shame or embarrassment might arise in some of the participants with low health literacy, privacy and awareness of the issue were maintained to avoid psychological stress to the participants.

3.8.1 Approval of Research Methods and Site Access

University of Nottingham's Medical Research Ethical Committee evaluated and approved the ethics of the study's methods to confirm the protection of participants' rights. Additionally, the Scientific Research Board of the Ministry of Health in Kuwait revised the data collection protocol and approved the ethical component of the study. After receiving approval from the Ministry of Health, the researcher met with the directors of the selected primary clinics and general hospitals to gain access to sites and conduct the research study. At primary clinics, meetings were also arranged with nursing officers to discuss patient involvement and facilitate the researcher's role. The same interaction took place with nursing staff within Development Units at each general hospital and agreed to approach in-patients in medical wards during evening shifts to minimise interference from hospital staff, and patients in waiting areas of primary clinics.

3.8.2 Consent

A standard verbal invitation that outlines the study and the value of patient participation was provided to eligible patients to help standardise the researcher’s approach in patient recruitment. Also, the standardised invitation ensured that participants understood what was expected from them and would ask questions accordingly. Gilbert (2000) describes the importance of praising participants' valuable and unique role in the study as rewarding and encouraging. Patients who were solicited to participate in the study were assured of their right to self-determination and to the maintenance of confidentiality and anonymity, as well as the fact that declining to participate in the study would not affect the treatment received at the health centre. After a brief description of their role in the study, a set of questionnaires and a study information sheet were handed to each participating patient. The researcher was available to participants while they completed the questionnaire to clarify items in the questionnaire; however, the researcher was vigilant to not influence participants’ responses. Participants were informed verbally and in writing, that returning the questionnaire set indicates their consent to participate in the quantitative part of the study. For the qualitative part, all patients how have participated in the research interviews were handed a detailed consent form to inform them of their rights as research participants (Appendix F). The consent form is an attestation document that includes information regarding participants' rights and researchers' responsibilities, it also includes the participant's authorisation to anonymously disclose participants' data.

3.9 Chapter Summary

In conclusion, the methodological underpinnings and research methods have been introduced to inform the reader about the applied research methods. The philosophical assumptions have also been presented to precisely reproduce the researcher's pathway in the synthesis of knowledge claims regarding the research problem. The theoretical model of the research study was emphasised to clarify the nature of the relationships among the study's concepts and to provide an understanding of the underlying epistemological assumptions and beliefs of the researcher (Maxwell, 2012).

In addition, the rationale and justification of selection or modification of the sequential mixed method design and activities have been demonstrated, which helps to outline the research strengths and limitations. These activities and the decisions made in implementing the research plan have been discussed in detail, to inform on ethical considerations, site access and consent, participant recruitment, and data collection and analysis. The analysis of the extracted data from the questionnaire set and interviews uncovered knowledge about quantitative relationships between variables and the qualitative data uncovered the themes arising within the four groups.

A presentation of the findings of both phases of the study is going to take place in the following two chapters. The quantitative chapter aims to lay the foundation for further qualitative exploration which was pertinent to the research questions I ended up asking. The quantitative chapter provides a description of patients' characteristics, identifies prevalence of health literacy and psychological empowerment and the quality of their association in the sample, and most important, to categorise patients into groups. Then, the qualitative chapter represents the core data used to explore the deeper influences experienced in health management by patients in the four groups.

CHAPTER 4: Questionnaire Findings

4.1 Introduction

This chapter presents the quantitative results from the distributed questionnaire set. The questionnaire set comprised two parts: first, demographic characteristics and chronic disease information, and the second part measured health literacy and psychological empowerment. The quantitative findings chapter will address the some of the objectives stated in chapter three. The results are mainly concerned with identification of individual characteristics and demographics that may influence responses to the powers surrounding health behaviour. This should also help to create patients' profiles that specify each group's characteristics.

Quantitative data analysis of the research findings was completed using the Statistical Package for the Social Science (SPSS) programme, Window version 22.0. Data were prepared for analysis and coded with consultation from a statistician. Data were described using the measures of central tendency, variability, frequencies and percentages. Inferential statistics were also used for correlation, regression and Chi-square tests depending on each objective. In addition, linear regression was utilised to examine associations and prediction between demographics, health literacy and psychological empowerment.

4.2 Demographic Characteristics and Chronic Disease Information

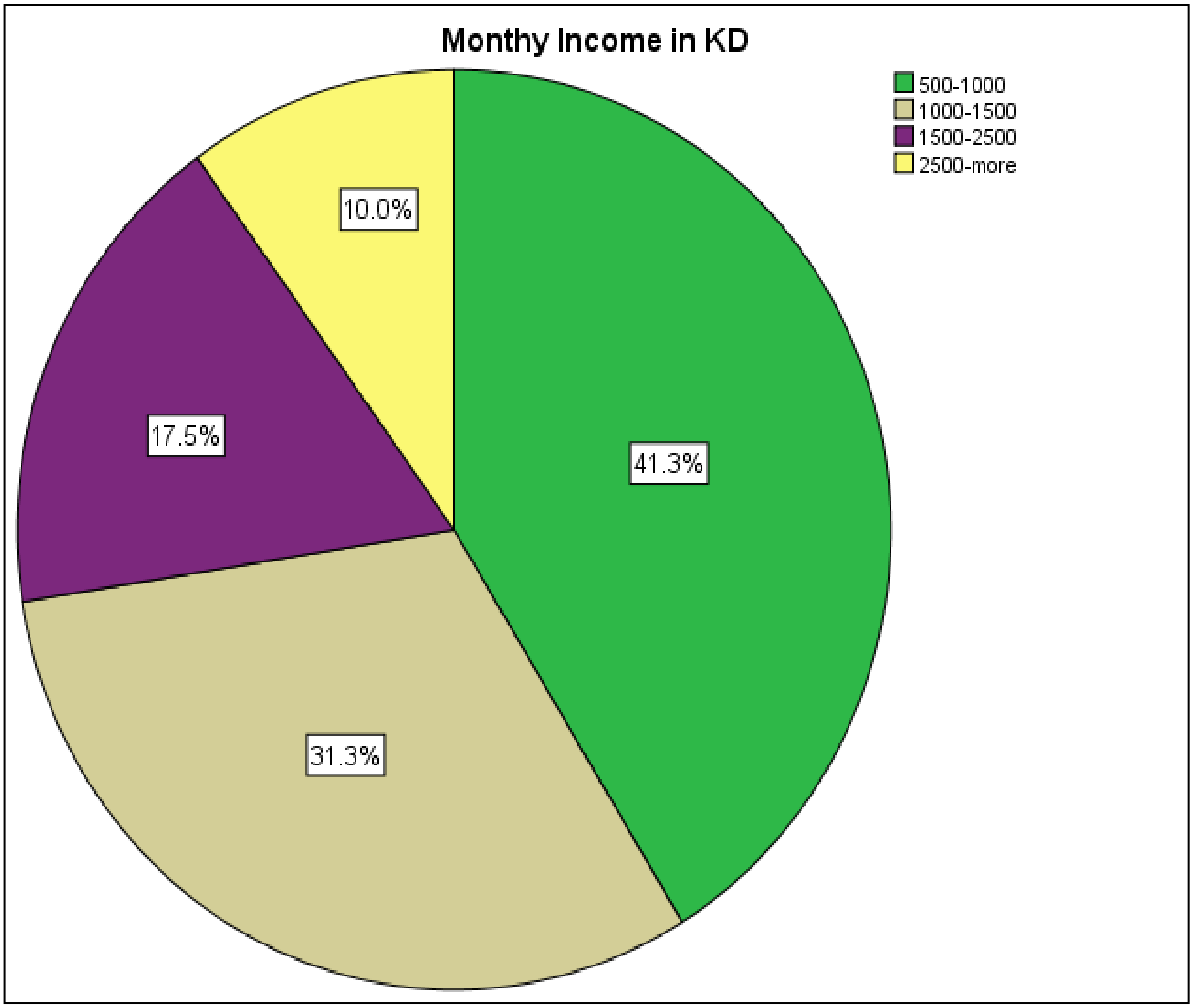
All demographic characteristics including age, gender, education level is included in Table 9, with frequencies and descriptive statistics.

Table 9: Patients Characteristics and Chronic disease Information

Characteristic	**N=245**		**Characteristic**	**N=245**	
Age mean (SD)	56.1 (12.09)		**Male** n (%)	128 (52.2)	
			Female n (%)	117 (47.8)	
Nationality	**n**	**(%)**	**Income/month**	**n**	**(%)**
Kuwaiti	120	(49.0)	<500-1000	99	(40.4)
Non-Kuwaiti	123	(50.2)	1000-1500	75	(30.6)
			1500-2500	42	(17.1)
			>2500	24	(9.8)
Marital Status	**n**	**(%)**	**Condition Count**	**n**	**(%)**
Married	184	(75.1)	1	148	(60.4)
Single	12	(4.5)	2	61	(24.9)
Divorced	11	(4.5)	3	34	(13.9)
Widowed	37	(15.1)	4	1	(0.4)
Employment Status	**n**	**(%)**	**HL Level**	**n**	**(%)**
Government	79	(32.2)	Low	109	(47.2)
Private	59	(24.1)	High	122	(52.8)
Not Employed	62	(25.3)			
Retired	39	(15.9)			
Other	4	(1.6)			
Education Level	**n**	**(%)**	**PE Level**	**n**	**(%)**
Basic - Elementary	57	(23.2)	Low	105	(44.5)
Middle- High school	86	(35.1)	High	131	(55.5)
College - University	99	(40.4)			

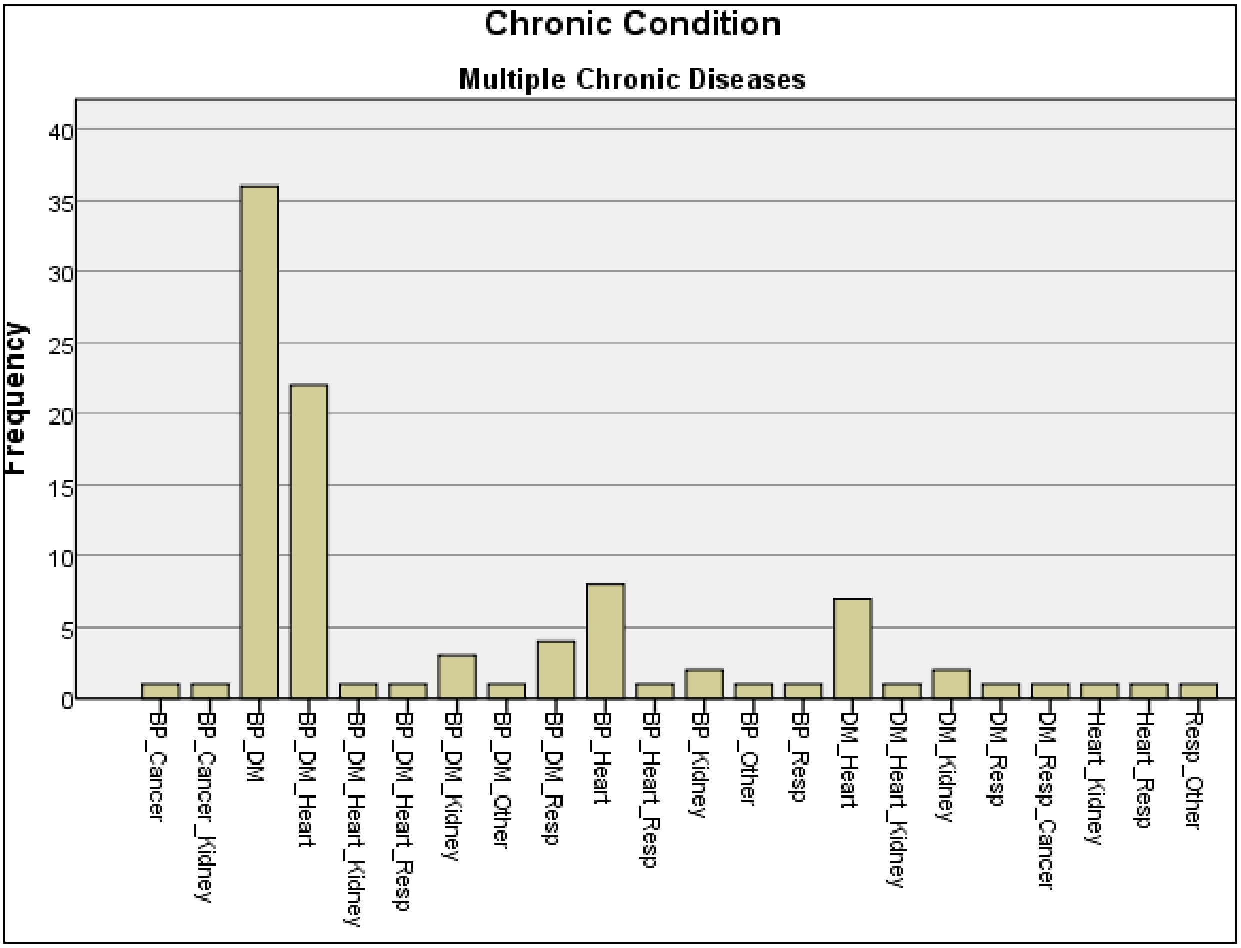
From all health regions, 52.2% (n= 128) were males and 49% (n= 120) were Kuwaitis. In terms of marital status, 75.1% were married (n= 184) with only 4.9% being single. The sample's mean age was 56 years, and 80.1% of the participants were younger than 64 years of age. The minimum age

Figure 6: Monthly Income of Participants



was 40, and the maximum age was 95. More than half of the sample received high school education or higher (58.8%), while 9.8% were only able to read and write (n= 24). Out of the total number of participants, 56.3% were employed either in the government or private sectors. The percentages of monthly income can be visualised in the pie chart in Figure 6 (1 KD = 2.80 EUR). The majority of participants were dealing with a single chronic condition 60.4% (n= 148) with High Blood Pressure being the most common chronic disease condition. The most common multiple conditions were High Blood Pressure (BP) and Diabetes Mellitus (DM) in Figure 7. Other chronic disease conditions with less frequency (2.8%) were: stroke, osteoporosis, pituitary gland condition, insomnia and digestive system condition.

Figure 7: Frequency and Type of Patients' Multiple Chronic Diseases



4.3 Health Literacy and Psychological Empowerment Results

Chew's 16 Health Literacy Screening Questions (HLSQ) were originally designed to test all tiers of health literacy: functional, interactive and critical. However, the short three screening questions were well suited to measure functional health literacy as they demonstrated good reliability levels and a correlation with both REALM and TOFHLA. The instrument is measured on a five-point scale, with levels ranging from inadequate, marginal and adequate, and participants are designated low health literacy if they fall into the lower two levels. Participants are determined as having low health literacy when their score is below 3.75 on average. The second research variable, psychological empowerment, is measured according to the scale proposed by Spreitzer's (1995) Psychological Empowerment Instrument in the workplace, adapted to the chronic disease context (Diviani et al., 2012). This measure reflects the four dimensions of psychological empowerment: meaningfulness, competence, self-determination and impact (Diviani et al., 2012). There are 12 items distributed evenly over these four dimensions. Each item is measured on a seven-point Likert-scale ranging from strongly disagree to strongly agree. Participants are coded as having low psychological empowerment when they score below the average score.

4.3.1 Research Objectives

The first objective is intended to measure levels of health literacy and psychological empowerment in the sample for two reasons. First, to identify data about health literacy and psychological empowerment levels in chronic disease patients in Kuwait. Second, to statistically examine the frequencies of low and high levels in health literacy and psychological empowerment in the sample; therefore, helps identify the prevalence of low or high levels and facilitates categorisation of patients into groups.

The data are described using percentages, means and standard deviations for each level in tables 10 and 11. Health literacy and psychological empowerment scores are divided into two categories: low and high, depending on the average of the instrument. The mean of the variable 'HealthLiteracymean' is 3.75 out of 5 with a standard deviation of 0.70. The minimum and maximum values are 1.44 and 5, respectively. Thus, values from 1.44 to 3.75 are recorded as low, and values higher than 3.75 to 5 are recorded as high. There were 236 valid entries without missing

Table 10: Levels of Health Literacy

Health Literacy		**Frequency**	**Percent**	**Valid Percent**
Valid	Low	109	44.5%	47.2%
	High	122	49.8%	52.8%
	Total	231	94.3%	100.0%
Missing	System	14	5.7%	-
Total		**245**	**100.0%**	**100.0%**

data. The mean of the variable 'Empowermentscalemean' is 4.94 out of 7 with a standard deviation of 1.16. The minimum and maximum values are 1 and 7, respectively. Thus, values from 1 to 4.94 are recorded as low, and values higher than 4.94 to 7 are recorded as high. There were 231 valid entries without missing data.

Table 11: Levels of Psychological Empowerment

Psychological Empowerment		**Frequency**	**Percent**	**Valid Percent**
Valid	Low	105	42.9%	44.5%
	High	131	53.5%	55.5%
	Total	236	96.3%	100.0%
Missing	System	9	3.7%	
Total		**245**	**100.0%**	**100.0%**

The second objective considers identifying the type of relationship by measuring the correlation between the mean scores of health literacy and psychological empowerment. A Pearson's r correlation test was conducted to achieve this objective, and to measure the strength and direction of the relationship between the concepts (Table 12). Although health literacy and psychological empowerment were treated as categorical variables in the previous and next objectives; however, the mean scores of health literacy and psychological empowerment variables were treated as continuous (ratio) variables in Pearson's r correlation test. The second objective aims to answer questions about claims that health literacy accounts for psychological empowerment; therefore, their relationship should reflect a strong correlation. However, the finding of Pearson's r supports the theoretical model which views health literacy and psychological empowerment as distinct.

There is a directly proportional relationship between health literacy and psychological empowerment with a strength of 0.349, which is significant at the 0.01 alpha level (2-tailed). It was suggested by other studies that health literacy has a positive influence on informed decision-making, greater autonomy, self-efficacy and patient empowerment (Nutbeam, 2000; Speros, 2005; Diviani et al., 2012; Noblin, Wan and Fottler, 2012; Estacio, 2013). Similarly, the analysis shows that higher health literacy skills are moderately correlated with higher psychological empowerment scores. This association (r= 0.349) of course accounts for correlation of mean scores, not for temporality or causality. However, in positivism, the stronger the correlation, the more explicit are the suggestions of cause-effect (Palinkas, 2014).

Table 12: Health Literacy and Psychological Empowerment Correlations

HL and PE Correlations	**Pearson Correlation**	0.349**
	Sig. (2-tailed)	0.000
	N	225
**. Correlation is significant at the 0.01 level (2-tailed).		

The third and final quantitative objective intends to categorise the quantitative proportions of health literacy levels with psychological empowerment levels into four groups (Table 13). This objective aims to show distributions of CD patients within the four groups, and to quantify the relationship between health literacy and psychological empowerment levels to test their independence. Cross tabulation is concerned with understanding the correlation between the different levels of health literacy and psychological empowerment. It shows how correlations change from one level to another to find patterns within relationships (Polit and Beck, 2008). Therefore, cross-tabulation provides empirical evidence of the independence between health literacy and psychological empowerment levels and the possibility of having four groups.

Table 13: Health Literacy and Psychological Empowerment Cross-tabulation

		Psychological Empowerment		**Total**
		Low	**High**	
Health Literacy	**Low**	59 (26.4%)	44 (19.6%)	103 (46.0%)
	High	39 (17.4%)	82 (36.6%)	121 (54.0%)
	Total	98 (43.8%)	126 (56.2%)	224 (100.0%)

Case processing was created for both health literacy and psychological empowerment to identify statistically valid cases out of the total sample (n= 245). There were 8.6% missing cases with n= 224 valid case to cross-tabulate. Conditional distributions show that 37% of the sample have unequal levels of health literacy and psychological empowerment, while 36.6% have high levels and 26.4% low levels on both variables. The results of joint distributions indicate that (19.6%) of low health literacy patients have high psychological empowerment while (26.4%) patients with low health literacy are likely to have low psychological empowerment. On the other hand, (36.6%) patients with high health literacy are likely to have high psychological empowerment, while more than one third (17.4%) of high health literacy patients have low psychological empowerment. The results also revealed that almost 50% of the CD patient population have low levels in one or both variables. This is an alarming proportion of patients requiring resources and regular support from healthcare services to be able to comprehend the basics of disease management. The cross-tabulation helped to identify how health literacy levels are correlated with psychological empowerment levels and whether health literacy is independent or causative of psychological empowerment. This points to further empirical evidence that the correlation between health literacy and psychological empowerment cannot be situated within a cause-effect relationship.

Temporality between variables is considered a critical criterion to establish a causal relationship in covariance studies (Rothman and Greenland, 1998). However, there are also many other criteria that may be used to establish causality between variables: strength, consistency, specificity, biological gradient, temporality, coherence and plausibility (Hill, 2015). Nonetheless, identification of temporality in the relationship between health literacy and psychological empowerment is fundamental in this study, because it points that health literacy was present before psychological empowerment. Thus, if causal association exists between two variables, then it is expected that a change in the level of health literacy should induce a change in psychological empowerment. Therefore, chi squared test, and regression, were employed in the analysis.

The resulting table of cross-tabulation showed the frequencies in each of the four groups and revealed that more than one-third of the CD patient population is expected to have a mismatch in the levels of health literacy and psychological empowerment. However, it is not as statistically definite as Pearson Chi-Squared test (Table 14).

Table 14: Chi-Square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.187[a]	1	0.000
N of Valid Cases	224		
[a]. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 45.06			

Pearson Chi-Square tests if the pattern of observed frequencies is significantly different from the expected frequencies, considering the relation between health literacy and psychological empowerment. The test shows statistical evidence of associations between both low and high health literacy with low and high psychological empowerment with 1 degree of freedom, X2= 14.187, with 2-tailed p< 0.01. The Chi-square test shows strong independence between both low and high health literacy, with low and high psychological empowerment with a 98% confidence that these results are similar to the results of other samples within the same population. Therefore, although health literacy and psychological empowerment are associated, nonetheless, the pattern of the relationship between their levels further the evidence of health literacy and psychological empowerment to be distinct but interrelated.

4.4 Correlation Results

There is a positive moderate level association between the research variables, health literacy and psychological empowerment with a strength of r= 0.349 at 2-tailed alpha (0.001) (Table 15). In accordance with several studies (Kripalani et al., 2006; Schillinger et al., 2006; Marks et al., 2010), age is found to correlate with health literacy inversely, r= - 0.189 at 2-tailed alpha (0.001), indicating that there is an association between increased age and decreased health literacy. Education was also moderately correlated with health literacy at r= 0.253. The higher the educational attainment, the higher health literacy is expected to be in CD patients. However, there were no significant correlations with other variables, such as income or gender. It was expected that income might not correlate with health literacy or psychological empowerment due to the salary differences between Kuwaitis and non-Kuwaitis. To confirm this expectation nationality was correlated with income and revealed that higher incomes are earned by Kuwaitis and explained the distorted income correlation with health literacy or psychological empowerment.

Besides health literacy, psychological empowerment had only one significant correlation with education at r= 0.145. When the dimensions of the psychological empowerment scale were examined, age was found to be negatively associated with competence in self-management and patient ability to influence their health. However, age was not associated with the other two dimensions, valuing management actions and self-determination. The research found that this association reinforces an explanation of the inverse association between age and psychological empowerment. However, it can be concluded that younger CD patients are expected to have greater competence in health than those who are older. Educational attainment was also found to positively correlate with the competence dimension at r= 0.155, which shows that patients with longer years of education demonstrate better interactions with their health.

Considering correlations among demographics, age is correlated with the number of concurrent chronic condition counts, as the age increases, the count increases with a moderate correlation coefficient of r= 0.263. However, age was inversely associated with the level of education and income. Higher education was established in Kuwait in the late 1960s, which would explain the inverse relationship between age and education. This also additionally explains the lower income of older patients (r= - 0.473), since most of the elderly are either not employed or retired (r= 0.473).

Married participants where 75% of the sample and being married was correlated with higher health literacy and psychological empowerment levels. This explains the relationship between higher levels of health literacy and psychological empowerment and being married or living with family members in the household. Thus, reinforces the importance of social support in influencing patient health management capabilities.

Table 15: Correlations

	HL mean	PE mean	Age	Age Groups	Edu. Level	Edu. Groups	Income / month	Condition Count	Employment
HL mean	1 232	0.349** 225	-0.189** 219	-0.164* 219	0.253** 231	0.276** 231	0.013 228	0.033 232	-0.129 230
PE mean	0.349** 225	1 236	-0.122 222	-0.126 222	0.116 233	0.145* 233	0.035 231	0.044 236	-0.047 234
Age	-0.189** 219	-0.122 222	1 231	0.937** 231	-0.473** 228	-0.468** 228	-0.167* 227	0.263** 231	0.473** 230
Age Groups	-0.164* 219	-0.126 222	0.937** 231	1 231	-0.439** 228	-0.435** 228	-0.137* 227	0.264** 231	0.441** 230
Edu. Level	0.253** 231	0.116 233	-0.473** 228	-0.439** 228	1 242	0.954** 242	0.406** 238	-0.070 242	-0.476** 240
Edu. Groups	0.276** 231	0.145* 233	-0.468** 228	-0.435** 228	0.954** 242	1 242	0.381** 238	-0.093 242	-0.448** 240
Income / month	0.013 228	0.035 231	-0.167* 227	-0.137* 227	0.406** 238	0.381** 238	1 240	-0.034 240	-0.152* 239
Condition Count	0.033 232	0.044 236	0.263** 231	0.264** 231	-0.070 242	-0.093 242	-0.034 240	1 245	0.128* 243
Employment	-0.129 230	-0.047 234	0.473** 230	0.441** 230	-0.476** 240	-0.448** 240	-0.152* 239	0.128* 243	1 243

* Correlation is significant at the 0.05 level (2-tailed.
** Correlation is significant at the 0.01 level (2-tailed).

4.5 Demographics vs Health Literacy and Psychological Empowerment Results

The following information shows the low levels of health literacy and psychological empowerment relationship with each demographic variable measured in participants. It specifically highlights the percentages of participants having low levels in both variables. The results in the following paragraphs may help in creating profiles of CD patients who might be expected to have either low health literacy or low psychological empowerment.

4.5.1 Chronic Diseases

The table below lists the frequencies and percentages of chronic conditions of the sample; furthermore, among patients with low health literacy and low psychological empowerment, those with multiple chronic conditions have a higher risk of low health literacy and/or psychological empowerment than patients with a single chronic condition, followed by hypertension and diabetes.

Table 16: Frequencies of Conditions

Condition	**Hypertension**	**Diabetes Mellitus**	**Heart Disease**	**Kidney Disease**	**Cancer**	**Respiratory Disease**	**Multiple Chronic Diseases**	**Other**	**Total**
Frequency	46	44	16	8	3	23	98	7	245
Percent	18.8%	18%	6.5%	3.3%	1.2%	9.4%	40%	2.8 %	100.0%

The chronic condition with the highest percentage of patients with low health literacy and low psychological empowerment are those with chronic respiratory problems at 65.2% (n= 15). The second group of patients who displayed a high percentage in low health literacy are hypertension patients at 53.8% (n= 21). Other conditions were either below or slightly above the sample's percentage of low health literacy (47.2%) or low psychological empowerment (44.5%).

4.5.2 Age

When age is classified into groups and cross-tabulated with health literacy and empowerment, the total valid entries are 218 and 222 in health literacy and psychological empowerment, respectively (missing values were either in the age groups, health literacy, or psychological empowerment variables). Table 17 specifies each age group and its correspondent percent of low health literacy or psychological empowerment. In both variables, it is clear that as age increases the percentage of low levels increases; however, the total levels of low health literacy and psychological empowerment in the age variable is not significantly different than the total sample's levels of low health literacy (47.2%) and low psychological empowerment (44.5%).

Table 17: Age Group

Age Group	**Low HL within age groups**		**Low PE within age groups**	
	(n)	%	(n)	%
(40-54)	(42)	38.9%	(48)	42.5%
(55-69)	(39)	50.6%	(26)	33.8%
(70 &over)	(20)	66.7%	(22)	68.7%
Totals	(101)	46.3%	(96)	43.2%

Nevertheless, Pearson chi-square test (Table 18) shows that there is a statistically significant association between both health literacy and psychological empowerment when the age group is 40-54 with 1 degree of freedom = 12.743. Also, there is a significant association when all age groups are accounted for with 1 degree of freedom = 13.123, with 2-tailed p< 0.01. With ageing,

Table 18: Pearson Chi-Square test

Age Groups		**Value**	**df**	**Asymp. Sig. (2-sided)**
(40-54)	Pearson Chi-Square	12.743[a]	1	0.000
All Groups	Pearson Chi-Square	13.123[b]	1	0.000
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.25. b. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 40.07.				

the count of concurrent CDs also increases, with a correlation strength of r= 0.263. when age increases the levels of health literacy and psychological empowerment decrease in CD patients, which is in line with other results about cognitive decline with ageing (Gazmarian et al., 1999).

4.5.3 Health regions and Settings

Out of the six health regions, 50% of patients in Asema, Hawally, and Ahmadi (n= 49) demonstrated the highest percentage of low psychological empowerment, that is 5.5% higher than the total sample (44.5%). The lowest percentage of low psychological empowerment was found in Jahra (32.4%). For health literacy, Sabah health region shows the highest percentage of low health literacy at 67.6%, compared to the total sample's percentage of 47.2%. Other health regions' results on both variables were either similar or close to the total sample percentage.

The highest percentage of low health literacy was found with the in-patient medical wards in the hospital setting (47.1%), while the lowest percentage was found in the primary clinic setting (38.3%). For low psychological empowerment, the out-patient setting has the highest percentage at 51%, and the lowest percentage was within the primary clinic setting (40%). Those with low health literacy are at higher risk for multiple and lengthy hospitalisation (Baker et al., 2002; Paasche-Orlow et al., 2005; Cho et al., 2008); thus, the finding is consistent with other findings that low health literacy patient higher frequency of being hospitalised, compared to primary clinic patients. Additionally, patients who are newly diagnosed recruited from chronic disease outpatient clinics were likely to have low levels of psychological empowerment. Empowerment, in general, is known to increase over an extended period of time in the role of a chronic disease patient because it requires lengthy situations or conditions (Angelmar and Berman, 2007).

4.5.4 Other Demographics

Table 19 demonstrates the frequencies and percentages of patient characteristics that fall into the lower levels of health literacy and psychological empowerment. The italicised figures indicate the individual characteristics linked to higher risks of being inadequately health literate or empowered. The percentage, in this case, is more than 5% higher than the sample's percentage of low health literacy (47.2%) or low psychological empowerment (44.5). The figures illustrate that patients with the lowest educational attainment have more than twofold the chance of scoring low in health

Table 19: Demographic Variables

Demographics	Low Health Literacy			Low Psychological Empowerment		
	(n)	%	N	(n)	%	N
Education Level						
Basic - elementary	(38)	*70.4%*	54	(34)	*63.0%*	54
Middle-High school	(37)	45.7%	81	(32)	38.1%	84
College - University	(34)	35.8%	95	(38)	40.0%	95
Income/month						
< 500-1000	(47)	51.1%	92	(42)	45.2%	93
1000-1500	(33)	45.2%	73	(32)	43.2%	74
1500-2500	(15)	39.5%	38	(19)	46.3%	41
> 2500	(12)	50.0%	24	(9)	39.1%	23
Marital Status						
Married	(75)	43.1%	174	(72)	42.4%	178
Single	(7)	*63.6%*	11	(4)	33.6%	12
Divorced	(4)	36.4%	11	(6)	*54.5%*	11
Widowed	(23)	*65.3%*	35	(22)	*64.7%*	34
Nationality						
Kuwaiti	(58)	50.4%	115	(52)	44.4%	117
Non-Kuwaiti	(50)	43.9%	114	(52)	44.4%	117
Gender						
Male	(57)	48.7%	117	(58)	46.8%	124
Female	(51)	45.1%	113	(46)	41.1%	111
Employment status						
Government	(30)	41.5%	74	(33)	43.4%	76
Private	(24)	45.3%	53	(23)	40.4%	57
Not employed	(32)	*55.3%*	60	(27)	46.6%	58
Retired	(18)	47.4%	38	(18)	46.2%	39
Sample Total *	**(109)**	**47.2%**	**245**	**(105)**	**44.5%**	**245**

* Low HL and PE frequencies in the sample

literacy and psychological empowerment than those who attended higher education. The importance of social support and household members to the development of health literacy and psychological empowerment can be seen in the marital status variable, patients who are single or live alone tend to fall into the lower levels of health literacy and/or psychological empowerment. Those who are not engaging in a work-life, such as unemployed patients, also fall into the lower level of health literacy. However, income per month reflects no apparent correlation between the groups, this is possibly due to the difference in salaries between Kuwaiti nationals and non-Kuwaitis. In Kuwait, income does not usually reflect the educational level, especially in the comparison between Kuwaitis and non-Kuwaitis.

4.6 Regression Results

The test of linear regression was undertaken in order to detect predictors of health literacy and psychological empowerment in the demographics (explanatory) variables. However, the test revealed a few significant statistical results, which indicates that these demographics play little role in explaining variations in health literacy or psychological empowerment within this sample. Nonetheless, a regression model was performed on health literacy and psychological empowerment to test for the influence of the former on the latter (see Table 20). When health literacy mean scores were controlled, regression results showed that a 1 unit increase in the mean score of health literacy is associated with a 0.574 increase in a scale of (1-7) in the mean scores of psychological empowerment. Also, when health literacy is held constant at zero, the average mean scores of psychological empowerment for participants are expected to be 2.781. The Model Summary shows the mean scores of health literacy accounted for 12.2% of the variations in psychological empowerment scores in the sample, as well as a moderate correlation (R= 0.349) between health literacy and psychological empowerment.

Education and age were able to predict health literacy scores independently. It was found that one degree higher in education, increases scores of health literacy by 0.246 on a 5-point scale, with an overall 7.6% influence in the variations in health literacy (alpha = 0.000). A one-year increase above average age (56) is found to be associated with a 0.147 decrease in health literacy score and accounts for 2.7% of the variation in health literacy. Psychological empowerment had one significant prediction with educational level; nonetheless, there was a statistically weak trend showing an inverse association with ageing. Education affects variations in psychological empowerment levels by 2.1%, while a degree higher in education predicts a 0.215 increase in the mean scores of psychological empowerment. The four dimensions of psychological empowerment were tested in a multivariate regression model to explore the strongest predictor of health literacy, the coefficient scores were similar, and no single dimension stood out. However, when the dimensions were tested with demographics, age was found to predict competence (ß= -0.257) and impact (ß= -0.010), while education predicted competence (ß= 0.289) only.

Table 20: Regression Model

Coefficients [a]						
Model		**Unstandardised Coefficients**		**Standardised Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	**(Constant)**	2.781	0.395		7.043	0.000
	HL mean	0.574	0.103	0.349	5.560	0.000
[a]. Dependent Variable: Empowerment scale mean						

Model Summary [b]			
Model	R	R Square	Adj. R Square
1 & 2	0.349[a]	0.122	0.118

A regression model for testing each demographic with age, as the dependent variable, yielded significant predictions with the count of chronic conditions (ß= 4.719), educational groups (ß= -7.175), and income (ß= -2.018). Level of education was independently predicted by income (ß= 0.614), gender (ß= -0.646) and nationality (ß= 0.533) at alpha < 0.005. For example, an increase in income is associated with approximately half a unit increase in education, out of 5, while being a female decrease the level of education by half a unit.

4.7 Chapter Summary

This chapter has presented the quantitative results from the distributed questionnaire set. The questionnaire set included two main parts: demographic characteristics and CD information, with the second part measuring health literacy and psychological empowerment. The aims of the quantitative part of this study were to identify health literacy and psychological empowerment levels in the sample and estimate the prevalence of low and high health literacy and psychological empowerment in the chronic disease population in Kuwait. Also, an important aim was to categorise the sample into four groups and examine the different relationships between both variables.

Patient levels of health literacy were divided into two categories, where low health literacy patients comprised 47.2% and high health literacy patients were 52.8% of the sample. Also, psychological empowerment levels in the sample were 44.5% for low psychological empowerment and 55.5% for high psychological empowerment. The association between health literacy and psychological empowerment indicates that there is a 34% chance that high health literacy would occur with high psychological empowerment in the population. However, regression model results indicate that health literacy accounts only for 12.2% of the variation of psychological empowerment. Health literacy was found to have significant association with age and education, but not income. The inverse association between age and health literacy indicates that older age increases the probability of low health literacy, while higher educational attainment increases the likelihood of higher health literacy. Moreover, age was also found to have inverse association with psychological empowerment; however, patients with longer years of education demonstrated better competence in their health management.

The categorisation of patient into four groups is then qualitatively explored for the interrelated influence of health literacy and psychological empowerment on health choices and behaviour in each group. The results revealed that 37% of the sample have unequal levels of health literacy and psychological empowerment, while almost 50% of the CD patient population have low levels in one or both variables. The results of cross-tabulation between the two levels of health literacy and psychological empowerment were in agreement with Schulz and Nakamoto's conceptualised interrelation and distinction between health literacy and psychological empowerment. According to Schulz and Nakamoto (2013), patients who have inverse relationships between health literacy and psychological empowerment might be either unnecessarily dependent on healthcare services while they can self-manage, or dangerous self-managers who lack the health literacy to support effective actions.

Participants in the group with high health literacy and high psychological empowerment were mostly Kuwait nationals with an age range from 40 to 70 years-old who mostly accessed healthcare in hospitals. The education level for this group ranged from middle school to university. Participants classified in low health literacy and low psychological empowerment group were 58 years-old and older who accessed healthcare in hospitals. They were found to have multiple chronic diseases and suffered from their complication; and shared low income and low education levels as well. Participants in the group of high health literacy and low psychological empowerment were mostly male expats with high educational level; however, their income was in the lower levels. This group age ranged from 52 to 64 years-old and accessed their healthcare in hospital settings, rather than in the clinic. Participants in the low health literacy and high psychological empowerment group were mostly male expat with multiple chronic diseases and age range from 54 to 73 years-old with a low to average income. This group were more likely to access healthcare in clinic settings rather than in the hospital.

The results in this chapter were presented in order to illustrate the influence of chronic disease patient individual characteristics on their behaviour in the healthcare system. Although doing more statistical analysis would have been informative, had the analysis focused more on quantitative data, the study's direction would have changed from an explorative research to a descriptive one. The following qualitative findings chapter explores patient responses in the interactions between these characteristics and the structural powers involved in the care of their chronic disease in Kuwait.

CHAPTER 5: Qualitative Findings

5.1 Introduction

The main objective of the qualitative method used is to explore CD patients' experiences and perspectives on health and related behaviours in Kuwait. This chapter seeks to explain structure/cultural and agency interactions that shape patients experiences and behaviours, in an analysis based on the theoretical model discussed in chapter two. The application of CR in addressing the ongoing problem of CD patient health behaviour was useful in offering a lens for explanations and justifications to help understand the reasons behind patient behaviour. The ontology of CR focuses on exploring the *real* domain to identify mechanisms responsible for observed events in the empirical domain, such as health behaviour. Therefore, analysing the context that created the right conditions to activate the causative mechanisms brings knowledge closer to identify causality in CD patient behaviour. The next section explains the role of health literacy and psychological empowerment as determinants of agency choices that direct patient health behaviour in the social world. It begins by describing the demographic data for each group, then discusses the main findings for each group and concludes by presenting new and shared themes identified during data collection and analysis.

5.2 Interviewees' Demographic Characteristics

Demographic data of the participants in the 20 interviews were recorded, of whom 13 were men and 7 were women. Among the female interviewees, five experienced hypertension (BP) and four diabetes

Table 21 Gender and Health Conditions

Gender	n	Hypertension	Diabetes Mellitus	Kidney Disease	Heart Disease	Respiratory Disease	Stroke
Male	13	9	11	1	7	1	1
Female	7	5	4	2	2	0	0

mellitus (DM). Similarly, most male patients (n=11) experienced diabetes mellitus and hypertension (n=9) than any other diseases (Table 21). The majority were in their 50s (n=7) and 60s (n=6) (Table 22). Unless not recorded by the interviewee, all participants were married.

Table 22 Age Range Distribution

Age	40-49	50-59	60-69	70-79
Frequency	5	7	6	2

The following sections present the qualitative themes and findings of the quantitively identified four groups. Each group begins with detailed information on quantitative demographics to provide a profile of common factors in each group. Also, this information shows how these factors may relate to the qualitative findings and influence patient overall health behaviour.

5.3 Qualitative Findings of the Four Groups

5.3.1 High Health Literacy and High Psychological Empowerment

Participants in the group with high health literacy and psychological empowerment tended to be Kuwaiti nationals in their 40s who accessed healthcare services in the clinic setting. Income in this group differed, and educational levels tended to range from middle school up to some college and university experience.

Table 23: Patients with High Health Literacy and High Psychological Empowerment

Participant	**HL=1-5 PE=1-7**	**Nationality Gender**	**CD**	**Onset**	**Age**	**Education**	**Employment**	**Income**
Jaho001	HL 4.68 PE 5.25	Expat Male	DM Heart	7 Years	46	High School	Privately Employed	Low Income
Asho020	HL 3.87 PE 5.83	Kuwaiti Female	Heart Resp.	7 Years	41	Mid School	Not Employed	Low Income
Faho001	HL 4.18 PE 6	Expat Male	DM	2 Years	48	College	Private Employed	Average Income
Asho016	HL 4.43 PE 5.67	Kuwaiti Male	BP	20 Years	54	Mid School	Retired	Average Income
Ascl013	HL 4.62 PE 5.58	Kuwaiti Male	DM BP Kidney	11 Years	43	College	Government Employed	High Income
Asho002	HL 4 PE 5.75	Kuwaiti Female	DM	13 Years	54	Mid School	Retired	Average Income
Ascl011	HL 4.5 PE 5.75	Kuwaiti Female	BP	20 Years	70	Mid School	Not Employed	Low Income
Asho013	HL 4.37 PE 6	Kuwait Female	BP DM	2 Years	47	University	Government Employed	High Income

Access to healthcare services

Although accessing health services is not problematic for this group, these patients reported visiting their healthcare professionals largely for medications, rather than for medical advice:

"We live in a busy area, and you would wait forever, so I go there only for a medication refill." asho002

"Thank God there were no side-effects. Because I do not like hospitals, I try to treat myself and see if it continues then I would have to go to the hospital if not." asho013

These patients usually have a low rate of health service use. Many patients state that they prefer to treat known, manageable symptoms at home, but if these symptoms persist, they seek health services. Some say they prefer not to bother the doctor with their symptoms as long as they are not serious and uncontrollable with the medication they have at hand. The following conversation highlights the behaviour of a Kuwaiti female patient diagnosed with hypertension in response to the conditions in the HCS:

"I: you mean whenever you feel signs you go to the clinic?
P: Yes, I do, but there are things I know how to treat, so I do not go to the clinic and disturb the doctor.
I: Like what?
P: The flu, for example, I know its signs. So, I take Panadol and lemon juice, and in a few days, it is gone. So, I do not have to disturb the doctor for anything. But, if it is my BP, I fear it might be high, so I go.
I: do you feel that when you go to the clinic, you are disturbing the doctor?
P: Yes, of course, as long as I know how to treat myself, it is not necessary to go to the clinic. I would leave the doctor for another sick patient.
I: What makes you feel that going to the clinic disturbs the doctor?
P: Nothing happened, but a person would understand as they go to the clinic repeatedly. I understand that there are sick patients. I do not want to take their turn and waste my time, as well. I have the treatment at home; that is it. I go only for important things, meaning when I am tired. When my foot got swollen, I went and had some tests. When I am sick, and I do not know what to do, I go. Now I go every two months to refill medications." ascl011

Patients' resources and doctor-patient interaction

Patients in this group share similar ideas and experiences of dissatisfaction with the healthcare service, for a variety of reasons, for example, long queues and waiting times, doctors' perceived indifference or inattention.

"Every time I come to the clinics here, they give me long appointments, whenever I say I am tired and sick the doctor prescribes some medications and says you will be better." asho020

This is a recurrent issue among interviewed participants, reflecting the power of the healthcare service (HCS) over agency attempts to reform such patterns. The HCS structure and policy set in motion further mechanisms that restrict empowered and health literate patients access to HCS resources. For example, the interactions with healthcare professionals often result in restrictive mechanisms, such as: short encounters, a lack of communication and provision of information about the disease. This group of patients would prefer that doctors provide them with the resources they need to manage their disease on their own and be available to answer questions for the patient. Instead, patients describe receiving only orders from doctors, without clear explanations for the logic behind those recommended treatments. The following excerpts are from different patients who expressed their reactions to the interaction with healthcare professionals:

"Honesty is a must, the doctor must teach the patient about the disease, the complications, how to manage the treatment. I do not like this method of hiding the truth, tell me to my face what is wrong with me, and how I can treat it. I do not like it if they scare the patient, but for me, not knowing would scare me, I should know at the moment." asho013

"It [Doctor encounter] is fast, there is nothing. If they see your blood pressure, they say 'it is ok, good', even if it is 140. I would say that is high. They say "no it is good for your age…Even if I have questions…Doctors will not help." ascl011

Patients in this group value independence and autonomy, while the HCS and professionals seem to overlook patients' role in the management of their health. They expect patients to comply with medications, appointments and seek health services whenever they have a complaint, even manageable health complaints, instead of supporting their independence and self-management.

"It is very quick and short, a summary actually and it does not help. You know for ten years, all I hear is 'if you feel tired, come back!' and nothing else." asho020

"Yes, generally I did not have information about the disease, and the doctor told me at the time if anything happens to me, even a dental problem, I should see him." ascl013

Nevertheless, these patients are set apart from unempowered patients by taking responsibility for their symptoms and making efforts to control their disease. As they are motivated to shape their way through these challenges, they create new social practices for CD patients, even if only temporarily. This active patient explains the influence of overlooking patients' role in their management and why active patients usually practice health management outside the healthcare system:

"“I used to come out of the doctor's office without understanding… [I prefer information] from doctors, but it is not happening. When I was first diagnosed with BP, I received nothing but orders. Come back in a week to confirm, take this medication, do tests…etc. They told me nothing about BP, thank God I knew a little about BP and started reading and searching…Now I would look for wrong doings, like eating or not walking. So, I would know what to do to fix my BP, and I do it. If it does not lower the next time, I will go to check with the doctor because the problem might be beyond my knowledge." ascl013

Therefore, patients verbalise tensions in the doctor-patient relationship where power is unequally shared, and patients' roles and abilities are undermined. Patients in this group often expressed dissatisfaction with health services. Furthermore, empowered patients who can comprehend health information consider solving health problems and symptoms outside the HCS whenever possible, despite not having any issues with their access to healthcare. Sometimes it is the patients who request more information from the doctors or add practices to the prescribed treatment based on information obtained from other sources.

"Sometimes I add to what they are saying [smile]. They think that I do not have the information. One time, a doctor prescribed a medication that interacts with another medication that I am using, and I told him." asho013

There are times when patients feel like they need more information to expand their health literacy, but they choose not to ask. Patients find the authoritative relationship with the doctor is not constructive, and they challenge this practice by demonstrating power in asking for more information. However, sometimes their power is attenuated out of consideration to other patients and the long queues, or because doctors are busy. If the conditions within the HCS are not permissive, patients choose to redirect their efforts to reach their health goals. Therefore, patients generally avoid asking questions, but this attitude varies to some extent within this group, and from patient to patient.

"To pressure the doctor with many questions and take time while the waiting line is long. But I thought I am doing this for my health, so I got to understand. Again, this is part of the doctor's job to educate patients." ascl013

Newly Diagnosed Patients Experience

Patients who are newly diagnosed need time to gain health information and learn the processes and actions needed to treat their disease. As they prioritise their new health situation, they seek to improve their capabilities to gain control over their health. However, they are faced with health inequality in the lack of information-provision and the focus on medication adherence. Although sometimes these patients complain of lack of information-provision; however, patients sometimes become overwhelmed when health professionals assume the educator role. It is true that the resource of information-provision is made available to patients; nonetheless, it does not usually consider patients learning abilities or needs, as stated by a patient:

"I think there should be a doctor specialised in educating patients and raising awareness, giving a thorough education and answering questions in detail, with appointments for sessions." asho013

Therefore, patients realise the significance of healthcare professionals' communication skills and abilities to provide the relevant information. For patients to gain benefit from these encounters, doctors must consider individual patient abilities and learning needs, as receiving strict orders without added information is '*scary*'. Despite displaying both high health literacy and psychological empowerment levels, patients in this group are not immune to feelings of fear and anxiety caused by authoritative encounters with health professionals. Patients resent their doctors for not trusting the patient to comprehend health information and the motivation behind prescribing specific tests or medication.

"I would just be sitting [during the encounter] with nothing. The only thing they do is scare you! They say no, no, do not do this or that. They called me once and said you must do the coagulation test and it is important. But you know, they do not tell me why it is important. So, I would have never known why if I do not educate myself." asho013

Health literacy shapes the way in which people act and find solutions to their health-related issues. Because the purpose of health literacy is to allow people to make informed choices within their health contexts and formulate plans to help them carry on with their daily lives, despite the disease. Although sometimes the structures or conditions do not create spaces for patients to expand their health literacy, patients in this group, who enjoy an empowered sense of autonomy, create their own social spaces and strategies to improve their health literacy.

"They did not say things like if I do not take Warfarin, I might get a clot. I knew this by myself from searching on the internet and reading [health sections in] newspapers. I learned that there are other medications than Warfarin. Things like that I taught myself. I mean I became interested in increasing my knowledge." asho013

Patients' Response to Health Issues

When patients with high levels of health literacy and psychological empowerment are faced with a health issue, there are usually two options. First, patients can choose to exercise their capabilities to manage and control the problem in available or created settings. If the issue is beyond their capabilities, patients are prompted to seek health services. Patients with multiple conditions or symptoms perceived as health-threatening were found to frequently use healthcare services, indicating that the health problem is overwhelming and that patients understand the limits of their knowledge and ability to manage the illness.

" These years gave me confidence and expertise…Naturally, I have become more confident in my analysis and management of symptoms. However, if my actions did not solve the problem within two days, I would go to check." ascl013

It is recommended to resort to healthcare professionals in these situations, however, encouraging frequent or needless use of resources imposes a burden on healthcare services. The different pattern of behaviour practised by this group point to the influence of health literacy and psychological empowerment capabilities on patient choices regarding the usage of healthcare services. Patients with better knowledge of their disease and who feel empowered to act on that knowledge prefer to treat common symptoms themselves and only contact doctors for what they consider significant health issues. However, for these patients, the doctors are more of a required service and not necessarily a source to improve their capabilities. One could argue that the increased burden on healthcare services imposed by patients seeking medical advice for minor symptoms could be alleviated by creating supportive environment for chronic disease patients. Where doctors provide patients with more detailed information about their diagnosis and respect their role as self-managers. Patients in this group with adequate levels of health literacy and psychological empowerment demonstrate the benefit of these capabilities to their health and the burden of chronic disease in the healthcare system.

"I just did not think to go there [hospital] since I can do it at home. Also, I am in control of my BP, so there is no need. It is not difficult, maybe for old people, but younger patients can do it at home, and the devices are cheap and available." asho013

"I had to search and ask and still ask. I believe the patient has to learn in order to control his condition…I got experienced on how to manage kidney problems, and that is of course by asking doctors." ascl013

Dissatisfaction towards the healthcare service, coupled with the mechanisms of high health literacy and psychological empowerment generated self-management activities to avoid the need for the healthcare service. The available opportunities surrounding these patients were facilitated by the use of resources for self-management of health issues. Therefore, offering CD patients the necessary resources to expand their capabilities within HCSs may have a significant impact on health behaviour, hence, better outcomes for patients and health systems.

Mechanisms of Knowledge

Patients in the high health literacy and psychological empowerment group demonstrate knowledge about their condition and the possession of capabilities in their health management helps maintain a stable health condition.

"Yes, of course, as long as I know how to treat myself, it is not necessary to go to the clinic. I would leave the doctor for another sick patient." ascl011

The findings from this group are consistent with the literature. Health information are valuable assets that a patient seeks in order to be able to exercise empowerment. It contributes to patient ability to make informed decisions and promotes participation in healthcare and patient autonomy.

"... I would ask [health professionals] until I am confident in the information. It is better than not understanding and harming myself." ascl013

However, for patients who do not have access to other resources beyond medical professionals, it is challenging to exercise health literacy and psychological empowerment. Their health management is limited to complying with medication prescriptions, as this is the sole instruction received from healthcare professionals.

"No, never, and I cannot make decisions in my own right. I have to consult a doctor." asho002

Lack of information-provision and support are significant factors that need to be addressed by the healthcare service. Most patients in this group were able to negotiate these mechanisms and develop their management capabilities. However, other patients adopt the role of the ‘passive patient'. It seems that patients underprivileged social conditions play a pivotal role in magnifying the influence of the limiting mechanisms of the HCS.

"I try, but I do not have the ability to do that [care for her health], because of my [not helpful] husband and where I live… Also, I live on the third floor, and it is tiring to go up and down 6 to 7 times a day. So, I said that is it, I will do it on my own. My kid has cognitive difficulties, and I take care of him at the expense of my health. There is a big difference between the hospital here and back in Saudi, it is much better there, they really care for the patients." asho020

Alternatively, favourable life conditions provide an opportunity for patients to exercise and expand their health literacy and psychological empowerment. The ability to control one's health condition was found to influence all patients in developing their agency. Furthermore, patients privileged with better social capital were also able to expand their agency. *Social Capital* represents a patient’s social life circumstances and relationships, which, along with patient skills and characteristics, influence patient opportunities to expand their agency against structural and cultural influences. Most patients in this group were fortunate to come into the healthcare system with a supportive social capital, granting them the ability to interact with healthcare professionals from an equal position. Such sequence of interactions was found to result in patients directing their efforts to create more favourable settings to meet their needs. Therefore, patient's social capital has a pivotal role in the development of one's agency in the absence of a supportive HCS.

"There are trusted websites, but I also verify with my wife. She is a doctor." ascl013

The findings of this study suggest an influence of social conditions and individual characteristics on the development of patient health literacy and psychological empowerment. The behaviour of one patient in this group provides further evidence of the influence of social capital against healthcare system mechanisms. This patient found it difficult to develop her health management capabilities without a supportive social capital. This patient deals with restrictive living conditions due to living with her unsupportive husband and his family and having to care for a disabled child. Her social circumstances strained her ability to self-manage and influenced her health, despite adequate health literacy and psychological empowerment.

"First, I have BP, and I had seven clots coming from my leg. My heart muscle is very weak, and my heart stopped twice, and I was on a ventilator. I have a battery (pacemaker) I changed it twice. It all started seven years ago when my BP rose with pregnancy until it became constant…I must confess, I am careless. It caused me problems in my heart and shortness of breath. Also, I have a careless husband, whenever I say that I am tired he says that I am all right." asho020

This patient's socioeconomic status prevents her from continuing proper treatment. She also lives in a sub-culture where women are subjected to strict norms. They are often relegated to being housewives and are denied high education, employment or the right to leave the house unaccompanied by a male family member.

"P: They told me to walk if my BP is high…. but my husband is very strict.
I: What about food?
P: I do not have my own kitchen, I live in my husband's family house, and I cannot cook without their permission. I want to care for myself, but I cannot.

I: Were there any changes after you knew that you have hypertension?

P: I put all my efforts into my children; I have three girls and one boy, who has a cognitive disability. I do not go to the doctor until I feel I cannot bear the pain or sickness.

I: Is there anyone who can help besides your husband?

P: Oh, my husband is good for nothing. There is no one here, and my family are Saudi, I want to care but how and when…At first, I was committed, but later not so much. I would not have a ride to the hospital, so I remain a week or two without medication…I need to keep oxygen with me, but I cannot get it, and my husband really did not help with that, sometimes I cannot breathe, and I need it at home but nothing, as usual." asho020

The patient's living circumstances were unfavourable to grow as self-manager of her disease, the patient's options for seeking information and control over her health were limited. Therefore, her efforts were not effective in deactivating the mechanisms set in motion by the lack of a support system in her social life. Although this patient attempts to expand her agency during doctors' encounters; however, doctors' inattention to the patient's complaints have limited her ability to expand or manifest her agency and assume control over her disease. Also, she was not able to create other settings and networks to support her agency development.

Even though other patients within this group experience the same HCS structures, their supportive social capital has neutralised the impact of the restrictive HCS factors. However, the combination of social and healthcare system structures powers deeply restricts the role patients can play in their health management. This situation is also influenced by healthcare service policies and portrays the quality of support received by patients. Due to healthcare service policies, tensions are experienced by doctors in managing the demands of chronic disease and by patients in having their needs met. Thus, limitations in the doctor-patient encounter are deeply embedded in social practice within the Kuwaiti healthcare context, superseding empowered actions by patients to change it.

The previous case was one of two exceptions in this group who suffer from complications. The other patient's health management is limited to medication adherence, although his social conditions are supportive: average income, support and help from his wife.

"[My wife] helps a lot; she reminds me to take my medication, things like that…I need my wife [to help with the hospital materials], she speaks English, and she helps me in that." asho016

Consistent with the WHO recommendations on the challenges of healthcare services in Kuwait, the healthcare workforce is made up mostly of expats, which creates language barriers with locals, thus influencing the quality of interactions. The patient quoted above was able to eliminate this barrier with the help of his wife. Other patients like (asho020) find it problematic to do so:

"P: The problem is that I speak with them, and they see how I am catching my breath and tired, they speak in English, and I do not know English, ...
I: What did you do in these situations when you did not understand?
P: I call someone sitting nearby to translate. Usually, I take the medication back home and do not take it or try to figure out how to take it because I did not understand how to take it." asho020

Nonetheless, during the interview, this patient explained his unhealthy choices:

"It was negligence on my part… I felt normal and strong, so I did not care. Sometimes when I get a headache, I take [the medication]." asho016

As I probed deeper to identify influences that may explain his negligent health choices, he said:

"I did not really know or care at the time to know [about complications of hypertension] ...Now. I have enough information, and if I could go back in time, I would really pay attention to hypertension information." asho016

At the time of his diagnosis, the patient was an active young man focused on athleticism and his career in the police force. However, this may explain the patient's priorities rather than his negligence, which may be better explained by a lack of symptoms or awareness. Nevertheless, the fact that time and experience improve patient responses to chronic disease demands, suggests that chronic disease patients may move through phases that determine their health behaviour. Especially, that health literacy and psychological empowerment are considered as processes that develop over time (Nutbeam, 1998; Angelmar and Berman, 2007).

In addition to the HCS structures, exploring patient life circumstances and engagement with social support networks offer explanations as to why patients with adequate capabilities may reproduce passive behaviour.

5.3.2 Low Health Literacy and Low Psychological Empowerment

Patients in this group, with low health literacy and low psychological empowerment, were found to be affected by factors known to influence health negatively, evident by their poor prognoses and several health complications. At the time of the interview, these patients were experiencing several complications from their chronic diseases, although disease onsets were recent. Patients in this group were found to share similar surrounding mechanisms and social conditions. This group's specific characteristics in addition to their social conditions point to their contribution to patient choices and behaviour. Patients in this category of low health literacy and psychological empowerment. In addition to low health literacy and psychological empowerment, other mechanisms that have contributed to this behaviour and health status were:

- Structural: HCS, employment status.
- Economical: demanding physical work, low income.
- Sociocultural: relationship with professionals, cultural influences interfering with healthy behaviours (e.g. pressure of social circle or beliefs), immediate support system.
- Developmental: over 58 years of age, low educational level.

Table 24: Patients with Low Health Literacy and Low Psychological Empowerment

Participant	**HL=1-5** **PE=1-7**	**Nationality** **Gender**	**Chronic Disease/s**	**Onset**	**Age**	**Education**	**Employment**	**Income**
Haho016	HL 3.43 PE 2.16	Kuwaiti Female	DM Kidney	25 Years	58	Elementary School	Not Employed	Low Income
Saho008	HL 3.18 PE 4.25	Expat Male	BP Stroke	4 Years	67	Mid School	Not Employed	Low Income

Newly Diagnosed Patients

As a newly diagnosed patient, the participant (Saho008) admits being ambivalent about chronic disease management as he is new to this context with less than background knowledge about health in general. On the other hand, the literature discusses observations of behavioural patterns among patients and relates the different patterns to patient's characteristics or the availability of resources (Tedeschi and Calhoun, 2004). This study finds that low health literacy and psychological empowerment have influenced the patient's ability to manage chronic diseases. Also, a significant finding in this study implicates the restrictive influence of social capital of patients and the experience within the HCS on these two important capabilities. This group of low health literacy and psychological empowerment displayed manifestations of inadequate abilities and behaviour to the demands of their health condition, as hypothesised.

"I took the medication when I was in chest hospital, but after that my residency expired and everything stopped, so I didn't get any medication and I stopped the medication…my blood pressure was so high and I had a stroke." saho008

Patients' Personal Resources

The majority of factors in this group were found be influence the development of low health literacy and psychological empowerment, and the interaction between these mechanisms acted to a certain degree and order as powers that generated the observed health behaviour. Indicated by their responses and drawing upon Sen's principles, patients in this group are considered high needs patients that require tailored care and support.

"I thought that I want to live normally and later on I would act on this information, until I suddenly got these foot problems. And it was too late, but I started to watch what I eat and stayed away from sweets, Pepsi and juices." haho016

Consistent with the correlations between low health literacy and information retention abilities (Nielsen, 2004), this study found that this group does not benefit from random health education encounters. Because each group's capabilities of health literacy and psychological empowerment differ, their needs within healthcare services were also found to differ. Such as the needs on the level of information complexity and the space to practise participation and autonomy.

"I have many medications and I know them, but I don't know when to take them and how many tablets should I take." haho016

Inattention to patients needs under these conditions and mechanisms influences patient opportunities to expand their agency. For example, social relationships, demanding physical work, the cultural expectations of an asymptomatic CD patient are all interfering mechanisms. These mechanisms influenced health literacy and psychological empowerment development, especially that patient characteristics and skills are not consonant. However, the most influencing factor was the lack of opportunities to gain experience within the healthcare context. The characteristics of a supportive doctor-patient encounter for chronic disease patients include recognition of patients' central role in achieving better health outcomes through making decisions and engaging in health management behaviours. Patient support within the HCS should also include planned health information-provision and social and psychological support strategies for health maintenance with CD (Clark and Gong, 2000).

"I was supposed to take insulin injections, but I did not know how and there was no one to give it to me. So, I took tablets and they were not enough." haho016

Furthermore, assessing the influences of social conditions is relevant for understanding patient needs for support. It was found in this group that patient social conditions sometimes interfere with CD management. It was also observed that the individual characteristics (age, education, income, health status, employment) in this patient was coupled with unfavourable social conditions, which had a restraining influence on the development of patient capabilities. However, patients with more favourable life circumstances displayed increased agency in health management behaviour. Therefore, the interaction between patient characteristics and this lack of opportunity to be involved and supported, may explain their pattern of health behaviour.

Doctor-Patient Interaction

In addition to facing the burden of CD that demands to learn new information and to take the initiative, patients face an absence of information and support from healthcare representatives.

Interviewed participants complained that professionals do not usually implement the educator role during their encounters.

“No [education]…they gave me the medications and told me to stick to the routine.” saho008

Patients in this group often felt uncomfortable asking their doctors to provide them with more information about their diseases. Patients continue to explain that they are conflicted when they need to ask many questions but feel embarrassed.

"Yes, this is a problem, I say nothing [if I do not understand]; I think that I am asking too many questions, I feel embarrassed." haho016

As this patient explained, they felt ‘embarrassed’ about being a burden when they tried to obtain more information from their healthcare professional. The absence of a supportive environment within the HCS was found to influence patient health literacy and psychological empowerment capabilities. Although empowered patients were able to manoeuvre the influence of structure and culture, these patients were not as empowered. For example, it is culturally acceptable to be subordinate to doctors’ authoritative power even though this influences patient agency and attempts to change this limited space to expand their capabilities.

"No, I do not [discuss doctors' recommendations], I take what they say, I am with them they know better than me, and they want to help me." haho016

Patients in this group did not fully adapt to the new context, and their management activities entail medication adherence only, as one patient says: *“I just take the medication and go”*. Other empowered patients, who had better life circumstances and individual characteristics, showed an inclination toward asking questions freely. On the contrary, patients in this group practised less agency against the obstacles encountered during the doctor-patient interaction. The management demands of CD makes the nature of the doctor-patient encounter an influencing factor in health behaviour. The importance of the doctor-patient encounter lies in its ability to generate mechanisms and conditions unfavourable for health literacy and psychological empowerment development, for example, through the doctors' authoritative role, lack of information-provision and focus on medication. Other factors such as patient cultural beliefs, waiting for lines, busy clinics and time-limits for consultations also negatively impact health literacy and psychological empowerment. Patients shared that they do not usually receive health information in an organised fashion within the HCS. This was a comment shared among all groups, even though each group had different ways of responding to this factor.

Patients in this group, soon after their diagnosis with CD, began to realise their limited role in managing this new situation. When patients fail to expand their health literacy and psychological empowerment in these restraining conditions, they fail to meet the demands of their health, leading to higher use of healthcare services as demonstrated by this group. Surrounding powers and conditions influence patient knowledge and competence development, especially when their individual characteristics and social conditions are not helpful. Under these circumstances, patients were found to be unable to manage activities perceived as very important for their treatment.

The Mechanism of Immediate Support

The presence of immediate support helps patients accomplish tasks, and its absence, therefore, may have harmful effects on patients in this group:

" No one is at home to give me the injection…Lately, my son gives me the injection at night that last for the whole day." haho016

Patients frequently verbalise that their illness self-management only consists of taking medications. However, they had difficulty remembering medications' names, doses or timing:

"The medications were so many, and my wife knows them. Honestly, I do not know." saho008

In addition, the presence of immediate support at home influences patients to relieve responsibility to others. Although patients assume a dependent role, they recognise that information is essential to improve their ability to manage their health, but still, they prioritise other life concerns. Nonetheless, some patient behaviours, including dependence, can be explained by considering that the conditions that influence patient health literacy and psychological empowerment development are activated in an ongoing process. Therefore, the mechanisms of low health literacy reduced patient health management plans to medications adherence, even though, patients reported incidents of medication errors. Hence, immediate support was able to neutralise the mechanisms of low health literacy. On the other hand, the benefits of immediate support at home for low health literacy patients create favourable conditions for dependency, especially if patients are less empowered and do not find health self-management meaningful.

Different Abilities and Different Needs

Patients diagnosed with CD have different abilities and needs which must be met. It seems that a patient's capabilities and their experience with their disease influence the kinds of cognitive and psychosocial support required by a patient. This group verbalised that they do not need orders or instructions, they need to understand these orders, so disease management becomes more accessible and more meaningful.

"Also, there are some things I did not understand. I mean, why I should not eat dates? What are the reasons for telling me to avoid dates?" haho016

These needs reflect the importance of health literacy and psychological empowerment to these patients, as they desire improvement of their skills and the ability to take better actions.

Knowledge Fallacies and Compliance

Receiving information from a professional figure was found to influence patient participation in care, particularly for those patients with low health literacy (Fochsen, Deshpande and Thorson, 2006). Knowledge gaps and fallacies about health are a known manifestation of low health literacy, and the findings correlate low health literacy with risky health-related decisions. For example, refusal to participate in treatment, failure to comply with treatments or failing to identify symptoms. Some patients were found to base their decisions on inaccurate knowledge (Federman et al., 2012) acquired from culturally circulated anecdotes of medical accidents or invasive procedures. This patient was reluctant to undergo a surgical procedure out of fear of the risks associated with the surgery, after learning from her friends about a woman who could not walk after surgery.

"About the surgery, I was hesitant and afraid that I would not walk again. I told the doctor, and he convinced me that I will be able to walk and that if I do not go through the surgery, the problem will be worse and I may lose my leg, so I agreed." haho016

The patient also did not communicate her complaints, as she confused orthostatic hypotension for post hospitalisation fatigue. This lasted for two months until a consultation by another doctor explained her symptoms.

"I thought that I was dizzy because I was just discharged from the hospital and tired. Until by chance the doctor in London saw the medication and told me." haho001

In this patient's case, as soon as the doctor corrected her gaps in knowledge, she complied with the treatment, accepting and acknowledging the doctor's authority and her consequent compliant role. A lack of information and incorrect health knowledge may lead non-compliance with therapy, thus, as long as these knowledge fallacies remain unclarified, patients might continue to embrace such unhealthy choices.

The following short section presents the health management experience of one participant in this group. His experience is detailed to help extract information about the group, since the number of participants is low in comparison to other groups. Therefore, this change in findings presentation is selected for this participant only to identify structure and agency mechanisms in the social and health contexts, and their influence on the observed patterns of behaviour in this group.

Patient Saho008

This patient profile is consistent with the mainstream knowledge of descriptors of health literacy and psychological empowerment. Saho008 is a 67-year-old male patient who was admitted to the hospital following a brain stroke. He was first diagnosed with hypertension four years earlier and at the time he was employed as a driver. The patient has a low level of income and education, like many of his family who work in manual labour. Due to financial and employment constraints, his social connections (network) and health received minimal attention on his part. I asked him about his needs for knowledge to manage his condition, and his answers were straightforward:

"No… [I am not interested in management]", or "look, what am I supposed to tell the doctor?" saho008

I asked if he inquired or attempted to ask questions, he replied:

"Not really. I did not ask, and what would I say? I would take the medication and leave and whatever happens, happens." saho008

His behaviour can be explained by looking at his answers as a reflection of his inadequate capabilities in the healthcare context, but it was found that his social capital and circumstances profoundly influenced his agency and health management choices. This patient's health management behaviour was generated by a series of factors that can be traced back to his SES. Within the healthcare context, it seems that patient social conditions (work type, life priorities, health experience) coupled with individual characteristics influence health literacy and psychological empowerment, hence, health choices. This patient's disadvantaged life circumstances illustrate an example of what patients bring to the healthcare context and how that influences their behaviour in response to the patterns of rules and resources. It seems that immediate support was helpful against other mechanisms in effect, for example low health literacy and psychological empowerment, and steered the patient away from their negative outcomes. Nevertheless, a change in the immediate support at home reinforced the influences of these mechanisms to act as barriers to health behaviour, therefore, generated a series of unhealthy activities.

"My wife was the one who cared for my health, and she would ask the doctor about everything…she asks and shouts at me if I did not take the medication or go to the doctor…the medications were so many… [I do not know] and my wife knows." saho008

As this patient lost his support at home, his health began to deteriorate, indicating his incapacity to manage his health. Ideally, the healthcare services through its social arm would intervene to modify patient social conditions. However, most patients admit "it is only about medications". Even this patient maintains that:

"I do not believe that learning about how to manage would help, only the medications do." saho008

Participants echoed this sentiment when asked if their health professional sat down with them to explain their health issues. they responded that "just take the medication" and did not try to ask for further information from the doctor. Furthermore, patients do not regularly receive an education that is tailored to their needs and abilities, as patients described the nature of the patient-professional interaction to be mostly limited to medication-related instructions, and the fact that doctors are perceived as busy.

Due to employment and residency issues, healthcare access became problematic, and its negative influence on saho008's health and behaviour was apparent. The patient's health has deteriorated rapidly, even though the onset of the disease was only four years ago. Although the patient did little to manage his health, his impaired access to healthcare services also affected the patient's commitment to his health, as little as it was.

For this group, easy access to healthcare is imperative, mainly because their health needs are high, and an available supportive environment would go a long way in expanding their capabilities to self-manage their health.

5.3.3 High Health Literacy and Low Psychological Empowerment

Table 25: Patients with High Health Literacy and Low Psychological Empowerment

Participant	HL=1-5 PE=1-7	Nationality Gender	Chronic Disease/s	Onset	Age	Education	Employment	Income
Haho001	HL 3.81 PE 4.4	Expat Male	BP, DM Heart	6 Years	52	University	Government	Below Average
Asho015	HL 4.69 PE 4.67	Expat Male	BP, DM Heart	40 Years	64	University	Not Employed	Low
Asho017	HL 4.06 PE 4.5	Expat Male	BP DM	8 Years	62	Mid School	Private	Low
Asho018	HL 4.13 PE 4.83	Kuwaiti Male	BP Heart	4 Years	60	High School	Retired	Below Average

Psychological Component of Health Management

Patients in this group of high health literacy and low psychological empowerment were all males with an educational level ranging from middle school to high school and university. This group largely accessed their healthcare in clinics, rather than in the hospital. According to the health empowerment model (Schulz and Nakamoto, 2012), this group is expected to have cognitive skills to help them understand and process health information, although their low level of psychological empowerment may influence their ability to act on this information. Nonetheless, this group's responses were unique in focusing on the psychological component of their experience. Several participants expressed the connection between their psychological wellbeing and their disease. As one participant explained:

"When I feel psychologically better, it will affect my disease for the better." asho015

Other participants described their disease and their path to improving their health as more of a psychological challenge than a physical one:

"For hypertension…It is more of a psychological thing…So I am on a diet, prevention is better than treatment. I have to look after my diseases because the complications are uneasy and troubling." asho017

This participant's measure of health literacy was high, and they had information about their condition, they felt they had difficulty controlling their health. Other participants also expressed feeling powerless in the face of social and cultural influences, and their impact on the management of their disease:

"I eat all the harmful food, not because I want to but because I have to... Look when I am admitted I care but outside it is difficult. When I am discharged, I know that it would take me only six days before all dinner or lunch [usually high-fat food] invitations arrive for my safe discharge! [Exhales] Society is difficult, and it is considered shameful to reject or sit without eating, what to do?" asho018

Doctor-patient interaction

Factors related to patients' levels of high health literacy and low psychological empowerment that also explain behaviour were found to be lack of professional support, the patient-doctor relationship, dependence on immediate support, previous unsuccessful experiences and cultural influences and pressure. Respondents in this group perceive themselves as knowledgeable about their health and have no problems understanding communicated information, except jargon or confusing terminology:

"No, no it [information] is simple and nice, and I comprehend it if there are not any medical terms. It is easy…It is possible that we, as patients, that we have rules for managing DM. it is like a foundation." haho001

Some patients attribute their knowledge, in part, to the experience gained from living with a family member with the same CD. Nonetheless, others gain knowledge from seeking information from other sources. However, they prefer the source to be a health professional.

"I use the internet, and my brother has advanced information about diabetes so that we would ask him, and he answers." haho001

"Yes, of course, I search for any related information." asho015

Their high health literacy distinguished these patients from others with low health literacy in recognising that health management is not only about adherence to medication. CD management to these health literate patients is about controlling the disease to prevent complications, as they realise their potential threat:

"It is much better this way [patients to self-managing their health], patients know their health problems better. I would know my problem with my hypertension and the best way to treat it. You try to be friends with diabetes and hypertension and get along with them both. So, if you do not, there will be consequences and hospitals." asho017

"If there was a complication, I will not do it, I do not mind the stent or the surgery, but I do not want to get complications." asho018

Because patients understand the potential threats of complications, they are motivated and value prevention. However, at the same time, they lack the initiative and the power to take control:

"I can manage, but to take decisions alone is a bit hard. I have control over my disease, but I need someone to guide me and tell me if what I am doing is right or wrong." haho001

When asked about the barriers to self-management, this group reasoned that confidence in their abilities influenced such behaviour; however, others mentioned deeper mechanisms of the doctor-patient problem. Although they have knowledge about their disease, they believe it is not sufficient to manage and control it. Also, if patients' previous experiences with health management were unsuccessful, feelings of incompetence would be notably increase. The following excerpts from three patients assert the influence of low psychological empowerment and the doctor-patient relationship.

"I would not make such decisions [health] because maybe I will make a bad one and regret it." asho017

"I do not decide, I consult. I do not have confidence in my ability. I need information." asho018

"In general, yes, I would need someone to help with that [hospital material], you know I have gotten old, and my kids are taking good care of me. Especially after the medication mistake that I made." asho015

Besides, as the current conditions within HCS are perceived as unsupportive, patients continue to see health management as a challenge. They need coaching, support and guidance from professionals in order to expand their competency (Lindner, H., Menzies and Kelly et al., 2003).

"I handle them [diabetes and hypertension] by keeping my diet in order. But no matter how much I know about diet; it will not benefit me if I do not apply it. Thinking from this perspective, a patient would need a long time to start following a diet. You also would need someone to help you, encourage you to tell you this is right. You know what I mean as if there is coaching to give you the strength to maintain a good lifestyle." haho001

This patient voiced his needs to be empowered and supported; otherwise, the knowledge he has gained is going to remain useless. As this patient continues to be unable to act on his knowledge, he and other patients in this group continue to seek health services frequently:

"I would visit the doctor to check on it [hypertension], and I must continuously check with the doctor. I do not want to get complications, and if I ignore going to the doctor my case will worsen for

sure…Because of my frequent visits to clinics for any symptom of chronic disease, I had too many treatments from different doctors." asho015

According to Schulz and Nakamoto's (2013) categorisation of patients, this group were expected to frequently but needlessly seek health services despite existing knowledge. However, restraining factors in the HCS have influenced the expected behaviour. As most interviewed participants complained of their experience in accessing the HCS, they also perceived healthcare services in general, and primary clinics specifically, to be limited in meeting their needs. However, they were mostly influenced by their doctor-patient encounters:

"Really, they do nothing; if they see your blood pressure is high, they will refer you to a hospital. They know nothing, so I take the shortcut and directly go to the hospital." asho018

"There are things you want to tell your doctor, just like the things I am telling you, but I cannot, there is no time…when you go to the doctor, you wait for a long time, and that makes me hate going there. That is very important; you might be tired [sick] but would not go, wait and get the usual prescriptions." haho001

These patients demonstrated dependent behaviours that were shaped by several intertwined factors, most important of which were the limited doctor-patient encounter and the subsequent low psychological empowerment. Despite their attempts to avoid healthcare services, patients remain dependent.

"You know I do not treat it [flu or cough]. It is only one week, and then it is gone. Plus, I hate antibiotics because it weakens immunity. Also, if I do go to the clinic, I wait for a long time and then just get a Panadol." asho018

Patients' Personal Resources

The present restraining conditions explain patients attempts to avoid using healthcare services because their restraining experiences within the HCS affects their need to frequently seek the help of healthcare professionals. In addition to the conditions of the healthcare service, the mechanisms of health literacy interrelate with patients sense of incompetence, so they delegate management activities to others. The presence of immediate support seems to explain unempowered patients attempts to manage health at home. However, these attempts are shown to be restricted to known health problems.

"For example, if I have a cold or flu; I would go to the pharmacy, buy antibiotics and treat it. But for diabetes or such, I would rather check with the doctor. Insulin is a strong medication and must be accurate, you know." asho015

"Of course [management] is [important], and if some of your family members want to help that is better." asho017

In other words, the presence of a caregiver providing symptom management encourages patients to reduce frequent visits to healthcare services.

"Usually I treat myself at home for a cold or cough; you know my wife is a nurse… if I felt something in my throat, and I already have antibiotics at home that I know are for throat problems, I take it, and we do this also with our kids. My wife is highly educated and does it to our kids, she diagnoses and gives medication." asho017

This situation displays a shift in the form of dependent behaviour from HCS to other trusted figures, avoiding the restraints of the system. It was found that CD patients search for opportunities to expand their capabilities, and this group directed their efforts towards available support to empower themselves. These patients were able to capitalise on social relationships (e.g. nurse-wife, pharmacist-friend, experienced friend) by using their skills and characteristics (education, income, age) to extract their needs.

An immediate support system was found to also explain other demonstrated behaviours in this group of high health literacy/low psychological empowerment. Those lacking support outside the HCS were found to have reduced health status, feel incapable, and be usually passive in the care of their health.

"Here I am at the hospital, and I care, the results are great, I do not get chest pains like before. However, when I am at home, it is different, the social life and the environment differs. I eat all the harmful foods, not because I want to but because I have to. Here at the hospital, I am committed to medications and on time, while at home I do not take them." asho018

These patients were also found to surrender to unhealthy cultural pressures, such as customs and traditions influencing diet, advice acceptance and lifestyle.

"I would be socially isolated if I favoured maintaining my health." asho018

Social pressure can negatively influence patient commitment to healthy behaviour. However, some patients were able to manage cultural influences by valuing prevention, while others could not overcome such influences. Although these patients have similar characteristics, the differentiating factor was the presence of a support system. Therefore, it can be inferred that the presence of a support system can help patients to overcome negative cultural influences. As an empowered patient, health actions are meaningful and valued, as evident from the examples of empowered patients responses against cultural influences.

Another form of cultural extractions and power influences affecting patients sense of competence is the patient-doctor relationship. Patients stated that the authoritative power of doctors usually undermines their agency in disease management and continues to limit their self-care activities to medication adherence. An example of this paternalistic relationship is when doctors deliberately hide patient health condition, as verbalised by one unappreciative patient:

"I would rather they do not hide my health status from me. When I was in Europe, they tell you everything, but here they hide this important information from you." asho018

Patients have grown accustomed to their undermined role. As I was interviewing one patient, a nurse checked his blood sugar and left without looking at the patient's face once. The general acceptance among patients of their subordination to the authoritative power of doctors continues to maintain the nature of the relationship. For this group, having a high level of health literacy does not also imply a high level of psychological empowerment as they value doctors' knowledge and advice above that gained from other sources. Furthermore, patients with certain social conditions, which impair healthy practices along with their low sense of psychological empowerment, make these patients relinquish control of their disease to doctors. Thus, even doctor-patient encounters where the patient is placed in a subordinate position are accepted as the cost of proper treatment.

"I do not interfere with doctors' recommendations, even if I disagree or have side effects." asho018

"No, I do not do such a thing [refuse treatment]. I am with doctors' recommendations, very obedient." haho001

The doctor-patient encounter is found to significantly influence psychological empowerment, particularly the competence dimension. Those with low empowerment are found to fail to act on their health literacy, and their contribution to their health management was limited to adhering to medications. Patients verbalised frustrations about their incapacity to act on their health literacy, rendering that capability useless.

"The patient has no power in that matter [Discuss doctors' recommendations] and is obligated to follow." asho015

As new patients, they limited their health management to only taking medications:

"The longer I go, the better my experience and management are. At first, I dealt with diabetes by medication only." haho001

With time and learned information, patients started to perceive self-management as useful for having overall control over health:

"It [hypoglycaemia] was difficult. To be frank, I was shocked. When later I was told about it [diabetes] I felt at ease and got used to it…Now that I have information and experience, I added diet and exercise plus carrying out doctors' orders and instructions." asho017

However, patients perceive health control activities as being able to react to health problems based on professionals' instructions only:

"As I said, I need coaching in what I do; that is what I always need. Of course, if I am alone, I cannot manage my diabetes, maybe I can alone act on the doctor's instructions." haho001

Encounters with professionals are mainly fast, focused on medications and lack opportunities for health education. Therefore, patients believe, in the absence of professional support, that they need these specific instructions and that they are incapable and incompetent to assume a management role in their healthcare.

5.3.4 Low Health Literacy and High Psychological Empowerment

Participants with low health literacy and high psychological empowerment were mostly male with a low to average income, who were more likely to access healthcare in clinic settings rather than in the hospital.

Table 26: Patients with Low Health Literacy and High Psychological Empowerment

Participant	**HL=1-5** **PE=1-7**	**Nationality** **Gender**	**Chronic Disease/s**	**Onset**	**Age**	**Education**	**Employment**	**Income**
Haho015	HL 3.53 PE 6.22	Expat Female	BP Kidney	15 Years	58	Elementary School	Not Employed	Low Income
Jaho002	HL 3.62 PE 6.08	Kuwaiti Male	BP DM Heart	5 Years	54	Mid School	Retired	Low Income
Asho001	HL 3.3 PE 5.5	Kuwaiti Male	DM Heart	4 Years	62	University	Government Employed	Average Income
Ascl015	HL 2.69 PE 5.75	Expat Female	DM Heart	14 Years	52	High School	Not Employed	Average Income
Saho004	HL 2.62 PE 5.08	Expat Male	DM	12 Years	67	Elementary School	Private	Low Income
Asho019	HL 3.31 PE 7	Expat Male	Heart Resp.	3 Years	73	Mid School	Private	Low Income

Most of the patients in this group have suffered from chronic disease, either from complications of multiple chronic diseases or general health deterioration. However, patients were unable to recognise severe symptoms and respond appropriately. This group also appears to fail in prioritising health in their daily activities.

“I: You said you had a headache for 15 years.
P: It was for years, I tried everything from Panadol to herbal drinks.
I: Why did you ignore it for all that time, and why didn't you go to the doctor?
P: I did not know that I have BP, I thought my head hurts from having a cold, I did not know." haho015

Doctor-patient encounters

Most patients get their health information from experienced family and friends, or on their own from booklets and media, because these are more accessible than other sources, including professionals. Nonetheless, many people in this group have difficulties comprehending the information they receive. This group expressed feeling uncomfortable asking for additional information from health professionals. When asked if he understood his doctor’ instructions for him, the participant preferred not to ask the professional to clarify:

"No, they do not do that [provide education] …They give me medications; they do not talk about my diseases." jaho002

Another participant in this group explained that the lack of information they received from their professionals was attributed to not having enough time with their professional:

“Usually, the prescription is ready before you walk into the office. We need more time with the doctors.” asho001

Participants sometimes felt they were using up professionals’ valuable time with their inquiries and often preferred not to ask additional questions. As this participant explained, they would feel more comfortable requesting additional information from their professional if the latter would be more “caring and interactive” toward them:

" …I want them [Doctors] to be patient and answer all of my questions and see that they are caring and interactive." ascl015

Obtaining and understanding information about CD is viewed by patient to increase awareness and facilitate health-related decision-making; most importantly, to promote independence from health services. The following patient explains his needs to self-manage her care:

"…awareness and knowledge of course about my disease, also on sensation [hunch] which tells me what is wrong with me exactly." ascl015

An empowered patient is most certainly in need of reliable health education, since, in their absence, empowered patients may resort to sources other than healthcare professionals, which may be unreliable. They report feeling dependent on healthcare and wanting to follow healthy behaviours autonomously. Nonetheless, patients with high psychological empowerment need the information to support their CD management activities, and such information and explanations are not being provided methodically. Usually, the information they receive is randomly delivered and mostly relates to "sticking to medications on time".

Patients complain that professionals are not meeting their learning needs or paying attention to their ability to understand health information. Although information from professionals is valued and trusted, patients seek information from other sources, despite knowing that this may be unreliable. Their sense of control and empowerment is fuelling the need to gain more information in order to understand what they are facing and commit to their health properly. They express the need for information about their disease in general, ways to plan activities of health and prevention. However, they report an incapacity to learn health information, and most patients are content with only seeking health services for medications refill only.

"No point of learning about chronic disease, people go to clinics and nothing changes, they still get complications." haho015

Consistent with the literature (Williams et al., 1998) that health literacy and psychological empowerment develop over time, patients stated that they have increased their knowledge mostly through time and experience.

Management Concerns

Patients postpone treatment of symptoms or are not aware of how serious their health problems are due to lack of knowledge and prioritisation of health. Other patients might make unreliable health decisions like choosing herbal remedies over undergoing heart surgery, out of fear of losing income and cultural practices followed by peers. This risky health behaviour might also be a result of other factors, such as limited access to care. Some patients might find it difficult to seek health services, or others may avoid the inefficiency of health services.

" people do not go unless they are sick. But still the way clinics treat us [disappointed] and I have Diabetes and the experience I have is that they have one problem. One doctor sees me and treats me I come back next week and there another doctor with different treatment. Every time I go for my appointment there is a new doctor." asho001

"the last thing I would do is to go to the clinic or hospital, it is a tiring process... all the papers I have to present, go there and come back here, and I have to pay money. It is a headache." saho004

Although some patients realise the importance of information in CD management, they admit that they only have information about medications and this information is not enough to manage CD on their own. With information, patients learn to take responsibility, participate and actively manage their health. Lack of information about CD and its complications, on the other hand, deviates patients from prioritising health activities over other life priorities.

"I don't get much [education], they just give me the treatment and that is it… I do not usually go to the clinic; I try to fix it at home or ask people who have DM and they give me answers. You know I'm busy with work." saho004

Patients do not usually participate in their care and deprioritise healthy activities because they feel energetic, healthy and problem-free; but also, because they do not understand the process of chronic diseases and their complications. However, their life circumstances seem to be a stronger determinant of health prioritisation. Patients with high health literacy usually employ their skills to follow activities to prevent these complications. However, most patients in this group admit they were less attentive to their health and "in a way" did not fathom the harm of this lifestyle. Nevertheless, these patients began to prioritise health management over other activities after complications have occurred.

"no not really, I did not pay attention to it. I did not get any symptoms and I felt ok. But it was the heart in 2013 when I did the catheterisation. I had a terrible pain; I could not breathe, and they took me by ambulance. Also, diabetes I did not care for it and it was not even on my mind." asho019

Patients responded to unhelpful learning experiences within the HCS by choosing to create new settings to help them find conditions supportive of actualising their learning values. They connect with networks to exchange knowledge, use life events and experiences, and search written materials. Nevertheless, patient information seeking paths are not always reliable, and patients are not expected to be able to evaluate medical information. Consequently, their information-seeking paths sometimes lead to unreliable information and practices, indicating the significance of providing health information by trained health professionals. Patients who have been diagnosed for a while have obtained sufficient knowledge and use the social capital effectively. They also still acquire information from other sources, but contrary to new patients, they tend to verify it with the relevant health professional.

5.3.5 Health Empowerment Model and the Four Groups

As Schulz and Nakamato (2013) conceptualised that each categorised group has its own unique and distinct pattern of behaviour. The responses of patients in group one (high health literacy/PE) differed from those of patients in group three (high health literacy/low psychological empowerment), for example. Although interviewed participants shared similar contexts and therefore mechanisms (e.g. lack of information provision), some responses differed among groups, indicating the influence of health literacy and psychological empowerment capabilities as hypothesised by the Health Empowerment Model (Schulz and Nakamoto, 2013). The model proved useful in this study, and the findings showed similarities with the model's hypotheses to some extent; nonetheless, the influences of structures in the world of chronic disease seemed stronger than the influences of health literacy and psychological empowerment. The HEM model provided theoretical explanations about different patterns of patient behaviour. However, an added focus on the dynamics of structure and agency helped explain a plausible account about mechanisms that influence the patterns of health behaviour.

Following the CR model of generative causation to explain the origin of health behaviour in CD patients, it was found that health literacy and psychological empowerment were able to account for the differing patterns of patient behaviour. However, the restraining powers of the HCS created overlapping mechanisms and conditions capable of limiting patient health literacy and psychological empowerment and enabling passive and dependent health behaviours. Most of the mechanisms were found to influence behaviours directly, such as: the nature of the doctor-patient relationship and encounter, or inefficient logistics and infrastructure were generated by the restraining modality of care created by the policies regarding the management of chronic disease. Although patients in the four groups demonstrated unique manifestations in some instances, the influences of the mechanisms of health literacy and psychological empowerment on patient behaviour were masked by the powers of the HCS. Therefore, the powers of the HCS explain the similarities found among patients of different capabilities within the same context. Also, patient social capital was shown to influence patient opportunities in improving their agency capabilities and health prognoses, providing a substantive and explicative account of interviewed participants' behaviour in the context of the Kuwaiti HCS.

Following the previous section which aimed to reveal differences in the four groups concerning the role of agency in health behaviour, the next section presents findings of the similar responses that are shared by all groups due to the role of structures. For example, the power-imbalances in the doctor-patient relationships and limited encounters or lack of health information provision in an organised fashion; even though, each group had different ways in responding to these structural mechanisms. The focus of the next section is to generate themes that reflect the shared experiences, since it was found that the powers of structures have a significant influence on participants' responses and challenges questions about if different health literacy and psychological empowerment capabilities are able to produce different patterns of behaviour.

5.4 New Qualitative Themes

The identified contextual powers and influences of structures among the four groups were found to generate some similarities in patient responses. Therefore, it was compelling to probe common health issues and ideas that are consistent among all interviewees. Performing data analysis to identify the influence of dominant structure on patient behaviour have generated new themes that are common across all groups. This shift in presentation of findings helps clarify the discovered influence of dominant structures on patient capabilities in health management, and the role of structures in shaping agency actions. The unexpected findings of the significant influence of the HSC in shaping patients' actions and in producing similar behaviours, urge to modify the relationship between structure and agency in healthcare. This section presents these generated themes and concludes with the main findings of this chapter.

5.4.1 Disease Self-Management: The Good Patient

Patients viewed self-management as a significant part of their overall health maintenance. Patients with high health literacy and high psychological empowerment described their active participation and the management of their health as an integral part of their treatment.

"When I am informed about my illness, I will be in control because I know what needs to be done. However, the information I got from the hospital was not enough. I had to search and ask and still ask. I believe the patient has to learn [about their disease] in order to control his condition." ascl013 (group 1 high HL and high PE).

As described above by a 43-year-old man with hypertension, diabetes mellitus and kidney disease, many patients expressed the need to be "in control" of their illness. Patients often felt that relying on healthcare professionals and the broader HCS "was not enough." That is, patients felt that they had to actively seek out and learn more information about their diseases in order to improve their health and monitor their illness.

Contrary to the behaviour of patients in the high health literacy and high psychological empowerment group, patients in the low health literacy and low psychological empowerment group admitted to being careless about their health until they were faced with disease complications. Often, the consequences of their carelessness led them to take a later more active role in their health maintenance.

"I did not care about diabetes mellitus, and as a result, the arteries have clogged…It was the doctor, family and friends [who told me I had diabetes mellitus], but I did not care, and at the end, I learned my lesson… I thought that I want to live normally, and later on, I would act on this information [i.e. diagnosis], until I suddenly got these foot problems. It was too late, but I started to watch what I eat and stayed away from sweets, Pepsi and juices…One has to take care of themselves and the disease they have. I did not and suffered from it a lot. My teeth, eyes, legs…I would have been better if I took care—recklessness increased the complications." haho016 (group 2 low HL and low PE).

The patient, a female with diabetes mellitus and kidney disease, described being "reckless" with her health until it "was too late", she had lost three toes and eventually the doctors had to amputate her whole foot. The loss of her foot compelled her to address her health issues and to change her behaviour.

Many patients actively sought out medication advice and general health information from medical sources (i.e. multiple professionals in Kuwait and abroad, and medical pamphlets), as well as from non-medical sources (i.e. friends and family, the internet, newspapers and magazines) in a display of interest to increase their health literacy. Many patients actively sought out medical guidance, however, most patients explained that they would prefer to have this experience in the HCS. One man, a 52-year-old patient with hypertension, diabetes mellitus and heart disease, described how he consulted various sources before coming to a final decision about how many pills he should take:

"I used to take medication three times a day. My sister is a doctor, and I have a friend who has diabetes, and my brother is also diabetic, he takes two tablets only. He told me that I lost so much weight because I am taking too many tablets and that I should not take three but two. When I asked my sister, she also said it is too many. That is it, from now and by myself, I started taking two tablets only and increased my exercise, and that will be good. I cannot judge its effect yet, and I just started recently. All of that was a personal effort; I interfered with the treatment by myself, because I did [not] get these instructions from my doctor." haho001 (group 3 high HL and low PE).

The patient confidently described his new pill and lifestyle regime that he derived from different sources. He felt that his decision better suited his personal needs and conditions than the instructions given to him by his doctor.

Another patient, a 52-year-old woman with hypertension, diabetes mellitus and heart disease, explained the various medical and non-medical ways she obtained information to monitor and manage her health.

"I have the monitors and plenty of medications. I keep Band-Aids clean and sterile because I injured my foot before, and I needed the doctor, but now I am ready [to take care of myself]. Sometimes I read a little [about my disease], whatever I find in front of me, my friends have the same diseases so [we] talk and exchange information…In Jordan, I have my doctor that I follow up with [rather than visiting different doctors in the Kuwaiti clinics]." ascl015 (group 4 low HL and high PE).

Like many patients, she described her active participation as necessary to deal with her disease, noting that:

"Sometimes you cannot reach your doctor, and you must not always depend on the doctor; you should know how to deal with the disease on your own." ascl015 (group 4 low HL and high PE).

Several patients echoed this sentiment and felt the need to take an active role in their healthcare. Other patients described the value of self-management through active involvement and investment in their health problems. As one patient, a 62-year-old man with hypertension and diabetes mellitus verbalised:

"Patients know their problems better [than professionals]. I would know my problem with my hypertension and the best way to treat it. You try to be friends with diabetes and hypertension and get along with them both. So, if you do not, there will be consequences and hospitals." asho017 (group 3 high HL and low PE).

Most patients felt that they were the best-equipped person to make decisions about their health. They felt it was their life-long responsibility to manage and care for themselves – or else they risk the potential negative consequences. For low psychological empowerment patients, this statement is, however, contrary to their psychological empowerment scale results showing that there can be a discrepancy between desired or intended behaviour and actual behaviour. However, in the context of an unsupportive HCS, many patients turn to a more proactive approach to chronic illness.

5.4.2 Self-Management: Patient Communities

Patients reported that they actively sought and relied on information about their illness from friends and family who shared the same disease.

"What happens here [at the clinic] is that the doctor tries all kinds of pills until one pill fits you then it will be your medicine…They experiment on you and whatever works they will prescribe…But sometime[s] I feel it [the medication] is not working…People asked me: "What do you take?" I told them Diovan [Diovan, a medication to treat high blood pressure or heart failure], and they told me: "No! There is a better pill than this one." I said: "What do I know?" and the one who told me has diabetes and said it is better. I took the pill's name and went to the clinic and asked the doctor, "Why don't you prescribe it to me?" and he did." asho001 (group 4 low HL and high PE).

A 62-year-old patient with diabetes mellitus and heart disease, described needing to compare the medical information his doctor gave him with what his peers were taking for their diabetes. The patient felt that his peers' personal experiences with different diabetic pills helped him to shape his own health decisions. The advice from the patient's peers helped him access and have more information about his diabetes to take to his doctor for further consideration.

Several patients described the benefits of obtaining advice from other patients with similar diseases to help inform their health decisions.

"We, as friends, have diabetes and help each other…We get some advice from friends and family. For example, they have diabetes mellitus, so they start saying, "Take that", or they give advice…I always listen to [my friends'] advice, I keep them as instructions so that I would try to execute and maintain [this information]." haho001 (group 3 high HL and low PE).

The patient, a 52-year-old man with hypertension, diabetes mellitus and heart disease, had accessible information about diabetes from his friends and family and used this advice to "execute and maintain" his diabetes. Other patients learned how to maintain their disease through their experiences with older family members. One patient, a 46-year-old man with diabetes mellitus and heart disease, pinpoints his desire to learn more about diabetes mellitus after seeing his mother and aunt's experience with it:

"I was feeling bad for my mother and aunt for having diabetes mellitus. My aunt's limbs were amputated, and that is because she did not care about her illness nor food or foot care. I do not want to reach that dead end. Therefore, I must watch myself, not eat carbohydrates. I fear I will injure my foot and I care a lot. The doctor once told me that illness is a man's friend if you take care of it, it will take care of you…but if you ignore it, it will sell you. That is why I take care to know how to manage my condition…Diabetes mellitus has become like a headache, it is everywhere. So, I learn from family or friends. Especially the doctor when he visited my aunt. I learned the advice he gave her." jaho001 (group 1 high HL and high PE).

Through the experience of his family members with diabetes mellitus, the patient already possessed personal information about the disease and used this to inform and manage his own health decisions surrounding the illness. In this way, patients described the value of exchanging health advice with family and friends who shared the same medical conditions.

5.4.3 Relationship with Healthcare Professionals: Beyond Prescriptions

Some patients described the need to be ‘friends’ with their diseases, as well as the desire for their doctors to be ‘friends’ with their patients. Patients felt that friendship (with its cultural meaning) was needed between patients and professionals in order to facilitate the exchange of advice and adherence to treatment that was personally suited to the patient’s needs and problems.

“*Since chronic diseases have been with me for a long time, we became friends.”* asho015 (group 3 high HL and low PE).

"A doctor must sit with patients and talk nicely, like friends – not like a doctor – and be patient and teach him. This way, the patient listens, understands and commits to the doctor. But usually, the prescription is ready before you walk into the office. We need more time with the doctors." asho001 (group 4 low HL and high PE).

The patient, a 62-year-old man with diabetes mellitus and heart disease, explained feeling discouraged with his relationship with his doctor. He felt that the patient-doctor relationship was primarily focused on the exchange of prescription medication, and as a result, there was little time to discuss issues unrelated to the medication. The patient suggests that a patient-doctor relationship should be like a friendship where each party strives to listen and understand the other. Such a relationship combined with a longer appointment time, explains the patient, would better facilitate the exchange of information and adherence to doctors' medical recommendations.

Several patients expressed their desire for a better patient-professional relationship. They wanted their doctors to provide them with information beyond simply dictating instructions about how to take their medications.

"I wish they [were] open, [and had] an awareness and education centre for patients [to] teach them about their disease in detail and ways to manage it. Because if they [patients] learned about the disease and its treatment, they will [know how to] control it. But just knowing to take medications, that is not enough." ascl013 (group 1 high HL and high PE).

This patient, a 43-year-old man with hypertension, diabetes mellitus and kidney disease, felt that one of the roles of professionals was to educate patients about their health problems. He felt that if professionals sought to educate patients about their disease and treatment plans, patients would have more information and would be better equipped to manage their health issues. The professionals' focus on medications in the above quote was limited to the patient because he wanted more information about the disease itself and what he could do to manage it beyond just pills. Other patients also felt that their interactions with professionals were limited to receive information about which medications to take, rather than learning about their disease as a whole.

“I received nothing but orders, they say: “Come back in a week to confirm, take this medication, do tests”. They told me nothing about hypertension.” asho013 (group 1 high HL and high PE).

The patient, a 47-year-old woman with hypertension and diabetes mellitus, felt that her professional gave her “orders” on how to manage her hypertension with medications without actually explaining to her what hypertension was and its impacts on her health.

This same patient explained that the professional's medication-focused approach to patient health was dissatisfying. She felt that by not explaining the disease, professionals were doing a disservice to patients that could potentially be harmful to their health.

" Show us the complications, so we understand what we are dealing with and how. Why should [I] search for information on the Internet? When I got this condition AF [Atrial Fibrillation], I wanted to know what it is, and I wanted to understand. All they said was it is a "normal" condition, you just take these medications." asho013 (group 1 high HL and high PE).

The patient felt that it was the responsibility of the professional to provide patients with a thorough and accessible explanation, such as the cause-and-effect, of her disease. The patient suggests that if a professional provided this information, she would be better informed about her disease and the consequences of her health decisions and actions surrounding AF. Instead, the patient felt that she had to rely on herself, a layperson, rather than a medically trained professional to understand her disease and the risks of AF treatment.

Another patient, a 70-year-old woman with hypertension, was also dissatisfied with the lack of information she received about her illness from her healthcare professionals. She learned that if she needed more information about her disease, she would seek out the information not from her doctor, but her family. The patient explained that her children, who had also studied medicine, would provide her with answers to all her questions about her disease. Her doctor, however, only provided her with information about her medication.

"Doctors will not help [when it comes to getting more information about medications and the illness itself] …If there is specific information that I need, I would ask my children. They are in medicine, and they teach me, they know and can help." ascl011 (group 1 high HL and high PE).

The information they received was limited, and often only focused on medication instructions without explanation of patients' actual diseases and consequences to their health. Patients expressed dissatisfaction with the information they received as well as the nature of their relationship with healthcare professionals.

5.4.4 Relationship with Healthcare Professionals: Care and Investment

Patients felt frustrated with their professionals when it came to information-provision and expressed the need for a more caring and invested patient-health professional relationship. Often patients explained that they felt too shy to take up a doctor's time with their questions, or they wanted not to be a burden on professionals whose time was limited due to the many patients they had to see in a day. When asked how she felt when she did not get the information needed from her health professional, one patient explained how she wished her professional was more like a family doctor. When asked by the interviewer, "How do you feel when you do not get the information you need from the doctor, or [he/she] does not talk to you and explain?", the patient responded by saying that she would be upset and leave.

"[if I feel the doctor is not providing me with enough information about my illness] I do not want to make the conversation longer [with the professional] ...Sometime[s] I would excuse them [the professional], thinking there are many patients [that they have to see]. Although family medicine [doctors], they would sit with you and ask about everything, and you feel comfortable with them. But there was one time I did not like the doctor [because they did not provide me with sufficient information] and [I] left [the appointment early]." ascl011 (group 1 high HL and high PE).

The patient, a 70-year-old woman with hypertension, described how she wanted for her professional to spend more time with her during her appointment time. She felt that with more time, she would be better informed about her illness. She felt that professionals were not able to provide each patient with enough dedicated time because they had too many patients to see in one day.

Patients felt that their interactions with their professionals were limited, they also felt they needed to overcome their shyness or embarrassment and ask their professionals to spend more time explaining their illness to them during their appointment time.

"At first, I used to go out from the doctor [appointment] without understanding [my illness], but with time I came to realize that I should not be shy, it is my right to ask and ask again…To pressure the doctor with many questions and take time while the waiting line is long [makes me feel shy]. But I thought, "I am

doing this for my health, so I got to understand. So again, this is part of the doctor's job, to educate patients." ascl013 (group 1 high HL and high PE).

This patient, a 43-year-old man with hypertension, diabetes mellitus and kidney disease, described it as his "right" and the professional's "job to educate" him about his illness. The patient felt that he was not asking for anything extraordinary during his appointment, but simply was asking for the necessary tools and information to understand his illness better.

Patients also felt that their professionals did not listen to them because they did not personally care about their wellbeing or health. The youngest patient interviewed was a 41-year-old woman with hypertension and heart and respiratory disease who felt that she only had herself to rely upon when it came to her health:

"I am my doctor, but here they take my word lightly and do not care. They keep referring me from one doctor to the other and nothing [sighs]…I keep telling them [doctors and nurses I feel sick and tired], but nothing happens…That is all because of the carelessness of the doctors and nurses. If I were careless like them, they would have given me more attention." asho020 (group 1 high HL and high PE).

The patient was actively engaged in managing her health, she felt that her professionals were "careless." She believed that being less involved in her health would draw more attention to her illness and perhaps would encourage the professionals to provide her with better care. Patients expected their health professionals to help them become better managers of their illness.

"I want them [professionals] to be patient and answer all of my questions and see that they are caring and interactive. To have a better arrangement of appointments so we can get things done." ascl015 (group 4 low HL and high PE).

This patient, a 52-year-old woman with hypertension, diabetes mellitus and heart disease, wanted her doctors to provide her with enough time during her appointment to address her health concerns. She felt that professionals' ability to be caring and attentive was linked to the lack of time during their appointment together. Patients felt that without enough time dedicated to each patient, professionals are not able to provide patients with proper care or information that is needed to monitor and maintain their health and wellbeing.

5.4.5 The Shared Experience of Chronic Disease Patients

In general, the paternalistic healthcare management was found to influence patient health management activities and limit their agency. Its influence extends to affecting logistics, such as: continuity of care, patient-load, time allocated to the doctor-patient encounter, and lengthy referrals and appointments. In addition to patients being culturally conditioned to accept their disempowered role in their health management, the short doctor-patient encounters are also not helping health literacy. Most patients agreed that they had an unsatisfactory experience using healthcare services, as the experience is ‘tiring', and their role is undermined and revolves around instructions about medication adherence. Therefore, patients repeatedly expressed their need for health information, especially to be able to health manage their chronic condition. Nonetheless, in the paternalistic healthcare experience, health management capabilities were found to improve with time and experiences if favourable social conditions are present.

These findings also explain why some patients avoid the HCS or seek alternative support. The presence of supportive social capital was found to replace or complement the role of the HCS, particularly in patients who enjoy an adequate social capital for the demands of chronic disease. When patients also have adequate capabilities of health literacy and/or psychological empowerment they showed resilience and had better agency in negotiating their way against the powers of the HCS. On the contrary, patients who were not as socially privileged were found to make unhealthy choices and demonstrate dependent behaviours more often. Although patient categorisation according to their quantitative measurements of health literacy and psychological empowerment was useful in understanding patient behaviour; however, the inclusion of patients social capital was able to better explain behaviour among interviewed participants.

Patients' social capital was able to explain behaviour and health status exceptions in cases found in every group. For example, experiencing unfavourable life circumstances and events within patient social environment was found to significantly influence patient health. A health literate and empowered patient was found to experience poor health status because her social capital was not congruent with her health needs. On the other hand, a patient with inadequate capabilities, was found to enjoy a healthy status because she had immediate support and influential relationships (her daughter is a healthcare professional). Patients were able to develop their capabilities with the use of their skills and social capital, also patients benefited from social capital to expand their capabilities in implementing their health choices and goals. Therefore, this delineates the significant role of social capital and health literacy and psychological empowerment in demonstrating agency against the limiting mechanisms that are activated by the paternalistic modality of care (Abel and Frohlich, 2012).

The mechanisms created by the paternalistic modality of acute care were found to restrain patient capabilities; thus, affected patient healthy behaviours regarding maintenance and preventive activities (Hedelund Lausen, Smith and Cai et al., 2018). As the modality of care informs the logistics of patient management, CD patients were managed with short encounters in which doctors exclusively assumed an authoritative role. In these conditions, patients learn that their role in this context is limited to medication adherence and frequent use of health services. Therefore, the nature of the doctor-patient encounters and the focus on instructions about medication adherence influenced patient behaviour regarding health management.

The characteristics of CD patient management in the Kuwaiti HCS is found to be similar to that of an acute disease patient. For example, the authoritative relationship is supported by the paternalistic modality of care as well as a cultural acceptance among patients to subordinate to this expert authority (Varul, 2010: Prigges et al., 2015). Also, the nature of the doctor-patient encounter does not allow patients to expand agency, as it is short and limited to the clinical component of CD management. The current modality of care in Kuwait generates mechanisms that are deterministic and limit the role of patient agency. Therefore, CD patient roles in health management were found to be undermined by the authority of doctors and influenced by the limited encounters and patient-load which create further tensions on health literacy and psychological empowerment development.

This combination of layered mechanisms originating from the power of the current modality of care led to the recurrent behaviours and some of the similarities observed in CD patient behaviour. For example, as the powers of the HCS were stable in their dominance on patients choices, most patients voiced a desire to ‘be' what is defined in this study as health literacy and psychological empowerment in order to manage their health optimally. Patients expressed a fundamental emancipatory goal and were motivated to exploit surrounding resources to improve their capacity, however, the mechanisms of the modality of care were not supportive. As this 70-year-old patient articulated his experience when I asked him about health management:

"[I am different now] for sure, there is a new burden and a responsibility that I had to deal with, so I can function and continue my path in life. That is why I keep on searching for information to help… with time I gained experience to avoid harmful things. I gained that experience the hard way, through sickness and complications, and the fear surrounding them. I started to look for answers to reduce the effects."
asho019 (group 4 low HL and high PE).

This patient summarised the experiences of many other patients as they are brought into the new world of CD, negotiate their health management needs in the HCS, and compensate for the absent role of the HCS in supporting the through their agency development (de Ridder et al., 2008). Otherwise, patient helpless behaviour may ensue because their capabilities in health literacy and psychological empowerment are inadequate for managing their chronic disease.

Other significant findings that were shared among interviewed participants, were health disparity and inequality which influenced the way patients developed their capabilities. CD patients may experience disparity in hospital access due to strains on healthcare services and/or administrative regulations concerning healthcare access, especially among the expatriate population. Furthermore, the current modality of CD management coupled with an increased patient-load appears to strain healthcare resources and limit continuity of care, prompt referrals and appointments, evident in patients' statements regarding the reasons they avoid the healthcare service. These mechanisms were found to influence health behaviour and health status greatly, and consideration of such findings prompts the need to facilitate patients access to healthcare services.

These findings show that most patients actively sought to manage their health by taking on the role of 'the good patient' and by engaging in patient communities to obtain health information and make informed health decisions. However, the limited resources at patient disposal limit their capabilities while they seek to expand their knowledge about chronic disease. Despite patient self-management objectives, patients were frustrated by the medicalised limitations of the doctor-patient encounter and power-imbalances in their relationship. Across all groups, patients felt that the need for a more caring and invested relationship with their professionals which was hampered by health professional authority and limited encounters. Furthermore, patients with limited social support or resources often postponed seeking medical help, which complicates their health and adds strain on the healthcare service.

5.5 Chapter Summary

Social capital significantly influenced the development and expansion of patient capabilities and was able to explain patient behaviour. However, the paternalistic management of the HCS also affected the way agency is manifested. Thus, the identified patterns of behaviour did not reflect the expected patterns of behaviour of the actual measurements of health literacy and psychological empowerment level (Schulz and Nakamto, 2013). The modality of care in the HCS was found to overlook behavioural managements that would improve patient capabilities; also, its mechanisms were able to determine patient agency manifestations. These key findings highlight the power of the HCS over patient agency, and the negative influences on health literacy and psychological empowerment. The influences on health literacy and psychological empowerment were not only able to affect their developments, but also affected the power of their mechanisms to generate healthy behaviours.

The findings indicate that the added strain on the HCS stems from the way the HCS distributes resources in the management of chronic disease. Although the healthcare service's resources are equally available and distributed; nonetheless, CD patients are experiencing health inequality in the way the behavioural interventions are handled in their health management. Behavioural management was rarely experienced by patients and was found to be insubstantial compared to the medical management of chronic disease. Therefore, patients experience health inequality in the form of failure to extract benefit from available resources (free and sophisticated network of healthcare services and professionals), because patients role is considered irrelevant in the current practice in the HCS and the behavioural component is, therefore, unnecessary (Lawn et al., 2009).

Consistent with the literature, the findings point to the importance of support for newly diagnosed patients in their adjustment to the new challenges of CD. Other patients who transitioned through their adjustments were found to adopt new roles and lifestyles to accommodate the demands of CD which lead to active agency in the management of their CD. The demands for complex health information characterise this phase, as patients can assimilate health information and become experienced in health management. Therefore, time and experience seem to influence health literacy and psychological empowerment and differentiate patient needs, which signifies the importance of the healthcare experience to meet patient health literacy and psychological empowerment needs. In addition, the literature suggests that meeting health information needs of

CD patients in a timely fashion contributes to better retention of information than random education (Nielsen-Bohlman, 2004).

The findings indicate that patients with different capital have different needs and require tailored contents that are appropriate to their levels of health literacy and psychological empowerment. It seems that health literacy and psychological empowerment developments influence patients transition through health management from the moment they are diagnosed until they feel experienced with their chronic disease. However, the conditions in the HCS makes these transitions rely on the availability of social circumstances and opportunities; therefore, due to differences in patient social capital, some patients may be able to transition through health management while others cannot. Therefore, the healthcare system interventions for chronic disease should be congruent with patient capabilities and needs to support patient agency, especially for patients with low social capital.

Integrating Sen's Capability Approach in the analysis of patients responses regarding cognitive and psychological challenges indicates that patients experiences within the HCS should be restructured based on patient capital. Accurate assessment of a patient's capital (HL, PE and social capital) provides knowledge about patient capacity to manage their health and the corresponding mechanisms that may limit their management agency. However, the relationship between structure and agency in the HCS must first be modified from a down-stream influence relationship to a collaborative one that values agency capacity and input.

This chapter presented the identified themes experienced by interviewed participants, and the different mechanisms found to affect patient behaviour. The mechanisms were found to stratify into three levels: micro, meso and macro-mechanisms. The meso-level reflects the *social events* level where patient agency powers in the micro-level interact with structural powers in the chronic disease social world to influence and produce behaviour. Patients capabilities were found to develop in their social context first as a result of the interactions between individual's characteristics and social life circumstances. Whereas, the expansions of health literacy and psychological empowerment resulted from their further interaction with social capital in the healthcare context, which results in patient capital and represents agency power. Structural powers of the sociocultural context are the broader socioeconomic status, healthcare, and sociocultural systems influencing norms and societal expectations. As structure and agency powers interact in the healthcare context, they employ interactive mechanisms to advance their goals.

The following discussion chapter provides further discussion on the findings and integrates them with the theoretical model of this study to explain the links and influences of these mechanisms on patient behaviour. This chapter also discusses the possibility of employing the findings of the model and specified respective strategies to address the mechanisms found in the healthcare services. These strategies are meant to make use of the findings and may help policymakers recognise the specific demands of chronic disease patient agency and bring change to the current situation.

CHAPTER 6: Discussion

6.1 Introduction

6.1.1 The Application of Critical Realism

The application of critical realism informed the study to explore how and why agency power is developed, transformed and manifested in its interactions with structural powers and conditions to cause health behaviour. Therefore, critical realism offered principles for explanations and justifications to address the ongoing problem of chronic disease patient behaviour and to understand its causal relationships. Critical realism provided valid grounds for causal explanations as an attractive alternative to the radical versions of social constructionism and the problem of epistemic fallacy in positivism (Alvesson and Sköldberg 2009). Patient health behaviour is mostly explained in the literature in terms of its correlation with measures of descriptive characteristics. Such a narrow view of health behaviour can only tell us so little about its existence. Instead, knowledge concerning the origins of health behaviour provides insights about the influences in chronic disease patient experiences, not only within the agency context but also within structures and the health care system.

The theoretical context of the study adopted the dynamics of structure and agency for empirical assessments of their influences on health literacy and psychological empowerment to ontologically account for health literacy and psychological empowerment influence on health behaviour in chronic disease patients. The developed theoretical model was built on non-conflationary assumptions which were useful in exploring causal relationships and explaining the various influences on patient health behaviour. The knowledge gained from this study provided an explanatory account of the influences on the capabilities of chronic disease patients that produce behaviour within society. Such an account offers a renewed outlook towards chronic disease patient behaviour as an alternative to mainstream knowledge.

The explanatory model of this study guides empirical explanations of patterns of behaviours by analysing their causal relations in the social practices and power dynamics between structure and agency. Therefore, the model draws on CR tenets regarding intransitive and sociohistorical knowledge that are related to healthy or unhealthy behaviours. This helps discern the related disciplines and theories needed to construct a theory of generative causation. I integrated social theory and methodology from related social sciences to the phenomena under study, which was particularly useful in comprehensive exploration of causation in behaviour. This comprised, integrating Bourdieu's theory on symbolic capital and conflict, Sen's approach on the importance of capabilities to have the freedom individuals seek, and more to better understand how patient behaviour and agency are developed and practised in the management of chronic disease.

This chapter presents a discussion and an integration of the results of the study to produce knowledge claims on chronic disease patient behaviour. First, it discusses and interprets the findings identified from thematic analyses and close reading of explicit and latent responses to attach meaning to the quantitative and qualitative data. Then, it discusses the development of the explanatory model and the causal relations identified in the model to argue that causation of health behaviour is better explained at the intersections of power transformation dimensions and social practice levels. Also, it integrates the findings with the literature to situate the found ontological relationships within the existing body of knowledge. Finally, the last section discusses change strategies to transform the deterministic structures of the Kuwaiti HCS in the world of chronic disease, into more advantageous mechanisms for agency expansion and elaboration.

6.2 Patient Capital in the Healthcare System

6.2.1 Limitations of Health Literacy and Psychological Empowerment Measurements

The quantitative measurements of health literacy and psychological empowerment pose ontological limitations. The limitations reside in the measures' reflection of correlates of health literacy or psychological empowerment, which is insufficient to produce and explicative account on their influences and development. Sen's (1993) example on nourishment status signifies the importance of identifying the influences of an individual's choice on diet in order to produce an explicative account on their nourishment status. Therefore, a focus on measurements of correlates of health literacy and psychological empowerment tells us very little about patient behaviours or why they are health illiterate or disempowered. Identification of the mechanisms and conditions influencing patient health literacy and psychological empowerment improve explanations of how and why they influence behaviour.

The example of health literacy and psychological empowerment measurement limitations demonstrates a risk for an epistemic fallacy, as health literacy and psychological empowerment measurement are epistemologies that should not inform ontological claims, and that is of concern in CR. Sen's approach accounts for social capital and individual characteristics as causal links in health literacy and psychological empowerment development. On the other hand, quantitative measurements provide descriptions of health literacy and psychological empowerment levels which make them unsuited for causation. Therefore, the comprehensive assessment of social capital and individual characteristics can overcome the explanatory limitations of quantitative measurements of health literacy and psychological empowerment, as it can explain why a patient is health literate, empowered or not. Thus, social capital and individual characteristics assessments promise effective change strategies for health literacy and psychological empowerment through knowledge and manipulation of their causative mechanisms.

Generally, the influences on chronic disease patients in Kuwait were mostly similar to what is out there in the academic discourse on health. Questions asked around the likelihood of associations of health literacy and/or psychological empowerment with effects on patient health had similar findings. Nonetheless, there were some differences between what is out there in the literature and the responses of chronic disease patients in Kuwait. Even though the quantitative measurements used in this study identified the sample's levels of health literacy and psychological empowerment, the qualitatively identified social capital was better at explaining the mechanisms influencing patient capabilities developments and expansion. While some chronic disease patients find following health behaviour easy, another significant proportion of chronic disease patient are struggling with health literacy and/or psychological empowerment. The argument is that agency capabilities are structurally framed and elaborated in the social spaces available, and that social capital principally influences their developments and expansion.

6.2.2 Capabilities and Social Capital

A key finding in this study is the influence of individual characteristics interaction with social capital. A supportive social capital was found to influence the development of patient's capabilities and at the same time help expand and manifest these capabilities. For example, when patients individual characteristics were health promoting, patients were capable of extracting more benefits from their social capital to further develop their health literacy and psychological empowerment, while patients with unsupportive individual characteristics were using their social capital only to help them maintain their health. Therefore, the variability in patients' individual characteristics and social capital were able to explain why patients have different levels of health literacy and psychological empowerment.

The presence of easily accessible support in the immediate environment is known to have a positive influence on patient health (Sudore et al., 2006). Nevertheless, immediate support was found to influence passive health behaviour in patients who are not skilled for the chronic disease context. These patients tend to relinquish health care responsibilities and self-management when support figures are available, and that prevents developments in health literacy and psychological empowerment. Alternatively, a lack of immediate support in these patients social capital was found to contribute to poor health prognoses and limited agency, as it activates the mechanisms of low health literacy and/or psychological empowerment in these patients. This indicate that their passive behaviour was originating from an incapability to individually meet the demands of their chronic disease (Uchino, 2006), as evident by medication errors and deteriorated health status. In contrast, other interviewed participants with better capabilities were able to extract more benefits from similar immediate support systems to expand their health management capabilities and agency.

Previous studies have found correlations between individual characteristics and health literacy and psychological empowerment which is in a way similar to this study's findings. However, social capital also determined developments and manifestations of health literacy and psychological empowerment (Lee, Arozullah and Cho, 2004; Rowlands, Shaw, and Jaswal et al., 2015). This explains why adequate patient capital, and not health literacy and psychological empowerment alone, accounts for better health management, as the kinds of capitals available to CD patients influence agency development in health management (DiMatteo, 2004). Immediate support or other influencing factors in the social world were found to influence patient health and agency expansion. Nevertheless, social capital is not able to explain why 37% of the study participants have unequal levels of health literacy and psychological empowerment, these unequal levels are better explained when accounting for the interactions between social capital and patients' individual characteristics. Thus, table (27) specifies the four outcomes of these interactions on health literacy and psychological empowerment which explicate three patterns of behaviours in regard to health management: independent, dependent on social resources or the HCS, and risky health management. Besides, the magnitude of social capital influences is better interpreted together with the Kuwaiti HCS role in contributing to patient capital.

Table 27: Outcomes of the Interactions of Individual Characteristics and Social Capital

Social Capital	Individual Characteristics	Outcome
Supportive of Management	Supportive of Management	Develop, expand and manifest HL and PE Independent health management
Supportive of Management	Unsupportive of Management	May develop either HL or PE Dependent health management on social resources
Unsupportive of Management	Supportive of Management	May develop either HL or PE Dependent health management on the HSC and Frequent use
Unsupportive of Management	Unsupportive of Management	Low HL and PE Risky health management

The HCS lack of contribution to patient agency development amplified the influence of social conditions on patient capabilities. In terms of health status and outcomes, interviewed participants were found to be affected by their social capital, particularly in the current experience within health care services. Failure of the HSC to recognise patient agency in the management of CD was found to activate social context mechanisms and culturally condition the acceptance of helpless and dependent roles. The influences of mostly disadvantageous powers and conditions within the HCS limited patient capital opportunities to expand; in turn, they also strengthened the impact of social capital on patient capital. The findings illustrated the dominance of the HCS structure and influence of sociocultural conditions in limiting agency capabilities. Therefore, provision of support interventions may benefit patient capital development and expansion instead of relying on social capital.

6.2.3 Patient Capital

Bourdieu's (1989) description of symbolic capital specified patient capital qualities in analytical explanations of power and helped clarify the relationship between patient capital and social capital. Bourdieu defines symbolic capital as "the form that the various species of capital assume when they are perceived and recognized as legitimate" (Bourdieu, 1989, p. 17). Bourdieu collectively merges the kinds of influencing capitals, within a particular context or culture, into a legitimate symbolic capital of power. Social capital was found to principally influence developments of health literacy and psychological empowerment which affected health management behaviours; and, expansions of health literacy and psychological empowerment which affected patient capital power. Therefore, besides health literacy and psychological empowerment quantitative measurements, social capital is specified as an important addition to the *'symbolic' patient* capital, because it influences patient behaviour and agency power in the interaction with the healthcare system.

'Patient capital' is the collection of a patient's capabilities and social capital in a patient's life circumstances which influences the manifestations of patient agency. However, it can only assume power when recognised and legitimised. Social capital is a part of patient capital because it was found to have a significant influence on patient capabilities and was able to explain health literacy and psychological empowerment developments and expansions. A patient capital consonant with the demands of chronic disease was characterised by high levels of health literacy, psychological empowerment, and social capital, and was able to support patients against barriers in their life journey with chronic disease.

Layered and overlapping dynamics of structure and agency interactions are taking place in the healthcare context before patient behaviour is produced. Hence, further explorations of the influence of patient capital on agency behaviours can be achieved by employing the morphogenetic sequence by Archer (1995). For example, although interactions in the social context help to develop patient capabilities, patient health literacy and psychological empowerment capabilities are also influenced by the mechanisms of the modality of care and the outcome of this interaction shapes patient agency. Nonetheless, the structural powers of the HCS were found to dominate patient capital mechanisms in their interactions in the healthcare context. The current policies and the culturally conditioned patients were found to reinforce the HCS's paternalistic role in the management of chronic disease that undermines patient agency. This interaction describes the sequences of social practices in the HCS which was particularly problematic for patients with low capital, who displayed risky and passive behaviours. In contrast, patients with adequate capital were found to be independent and seen to attempt to negotiate their needs with healthcare professionals and to transform the current practice.

The gaps in the management of chronic disease create tensions in the social dynamics within the healthcare system and these were reflected in the conditions and patient experiences within the HCS. Likewise, gaps in the management of patient capitals were reflected in patient behaviours. The interactions occurring because of gaps in the management of chronic disease and its patients were the basis for the reproduction of the current social practice. The power of the HCS is well anchored in the world of chronic disease, and thereby able to obstruct the emergence of new practices, like health literacy, psychological empowerment, and autonomous health management behaviours. Thus, patients are expected to relinquish their agency in caring for the demands of chronic disease to the paternalism of the healthcare system; however, it is deemed impossible for the healthcare system to meet these daily demands (Varul, 2010), especially, when their management is focused on medical treatments and the time of the doctor-patient encounter is limited.

Harwood and Clarke's (2012) findings also indicate that patients with active agency have the capacity to overcome barriers in health management. But also, the adequacy of patient capital and the extent of its development are significantly influenced by how considerate the healthcare policies are to issues related to improving health behaviours like health literacy and psychological empowerment (Rowlands, Dodson, Leung and Levin-Zamir, 2017). However, the medicalised orientation of the HCS service delivery is inconsiderate to patient capital which made it susceptible to social capital influences to determine its development and expansion. Although actions of patients with adequate capital were not sufficient to transform the patterned structural constraints, patients overcame such barriers by extracting from their capital to seek health-related opportunities from other sources to create health management settings outside the HCS. Still, the efficacy of exercising health management outside the supervision of a healthcare professional is doubtful and may lead to negative experiences in self-management. Therefore, it is important that patient self-management to be guided by the HCS to prevent negative experiences in self-management. Because few of the interviewed participants reverted to dependent behaviours after making mistake in health management; thus, were less willing to continue with self-management despite their adequate patient capital (Hwu and Yu, 2006).

The health care systems modality of care is found to overlook chronic disease patient agency when it comes to health management or capabilities development (Holman and Lorig, 2004). It fails to recognise the important role of chronic disease patient agency in health management. In addition, the general acceptance of the idea among patients to assume a helpless role in healthcare adds tension to empowered patients attempts towards autonomy. In-depth analysis of patients' data illustrated the significant influence of the mechanisms of social capital which were found to be activated in replacement to the constraints created by policies on chronic disease management in the HCS.

The findings of this study show that patient capital significantly adds to agency development as a central influencing mechanism; therefore, patient capital can explain why agency manifestations differed among chronic disease patients. Patient capital in the chronic disease context offers explanations on why patients overcome barriers in health management while others struggle; thus, patient capital should guide a management of chronic disease patients that targets patient capabilities.

The next section aims to discuss the findings and provide further explanations using a method known as mechanism modelling. The model is developed to methodologically intersect the dimensions of power with stratified social levels (Craver, 2002) to identify the research outcomes and situate explanations of the findings with the current body of knowledge. It discusses causal relationships through structured analyses of theoretically supported parameters to identify the influences of chronic disease patient behaviour.

6.3 The Explanatory Model of Generative Causation in Chronic Disease

The general thrust of this model is to allow analysis and explanations of behaviour and, therefore, identify efficacious strategies for change. The model apprises theoretical conclusions on how the observed outcomes existed and how they may or may not influence change in social practice, thereby pointing to principal mechanisms that generate gaps in social sequences. The development of the explanatory model was informed by the study's theoretical context which helped analyse causal relations of the identified mechanisms. The theoretical model of the study carefully linked theories and frameworks from disciplines in the social sciences with the strong ontological perspective of critical realism. Specifically, it is noted that the theories and frameworks used in the model complemented each other, such as: intersecting Bhaskar's parallel domains of power in reality (Bhaskar, 1994) with the framework of micro, meso, and macro levels of social practice.

The multilevel modelling of the mechanisms identifies multiple power transformations in the three levels of social practices and aims to facilitate ontological explanations of sequences involved in the production of health behaviour. Therefore, it informs on the contextual causal relations that influence social practices and outcomes. This assumption is aligned with critical realism’s focus on causality and contexts as these are equally important in terms of a change in the set of mechanisms, or a change in the conditions of contexts changes the dynamics, and therefore, the outcome (Archer, Bhaskar and Collier et al., 1998).

6.3.1 Multilevel Mechanisms Modelling

The identified multilevel conditions and mechanisms in the world of chronic disease management that influence patient health behaviour are organised and described here as: micro, macro, and meso-mechanisms; therefore, the outcomes in the world of chronic disease are influenced by upward and downward social processes in the meso-level or socio-health context (Craver, 2006). The three levels of social practice coincide with agency, structure, and their social interaction events (Hedström and Ylikoski, 2010). Thus, the three levels represent the social contexts of actors/entities in the world of chronic disease management (e.g., the agency social context, the structure sociocultural context, and the HCS socio-health context).

Micro 'Agency' Level

The micro-level, also referred to as agency levels of analysis looks at the direct influences in the social world of an individual or a group of individuals (Li, 2012). The study of the micro, therefore, explores the social processes within the social context of the patient that influences chronic disease management. As the micro level reflects agency level, it specifies agency power and offers explanations on the origin of behaviour from a micro-level lens (Craver and Bechtel, 2007). The social context explains the context of an individual, functioning as either as healthy or unhealthy, before they cross into the socio-health context, or the meso-level, with a CD diagnosis. On the other hand, telescoping into the agency social context, transposes the model into the social world of a patient including the micro-mechanisms, macro-mechanisms, and their interactions to influence patient social capabilities and capital, which in this sample was found to be part of patient 'symbolic' capital in the world of CD management.

Since health literacy and psychological empowerment in patient agency are the focus of this study, the following provides an example of micro or agency level analysis. Initial development of patient health capabilities was found to be affected by mechanisms within the individuals' social world. For example, qualitative data analysis identified that an individual's cognitive abilities interact with life events (e.g., having a family member with a chronic disease) to influence health literacy. Such an outcome is considered a social capital asset, and it adds to patient capabilities when they begin their journey in the CD world. Furthermore, because social capital also influenced health literacy and psychological empowerment expansion, it was found to facilitate interactions with health and in the HCS, as in the doctor-patient relationship.

In that way, inadequate individual characteristics in patient social world, are known to correlate with low health literacy and/or psychological empowerment. However, this telescoping into agency social world illustrates how patient capabilities are not only individually acquired, but also socially framed. For instance, prioritisation of income-generating activities over health-related activities because of demanding social life circumstances explain how the influences of social mechanisms affect acquisition of health management capabilities. Therefore, the array of activated macro and micro-mechanisms in a patient's social world can influence developments of health literacy and psychological empowerment. The more detrimental the activated mechanisms are, the more the possession, expansion and manifestations of patient health literacy or psychological empowerment are inadequate. Bear in mind, this is an agency level assessment that did not account for meso-level mechanisms which have explicated the findings on health literacy and psychological empowerment.

Meso 'Social Event' Level

In general, the meso level represents the various social interactions and relationships in the real world and refers to analyses of the social events occurring in social practice, in other words, it explains the connections between micro and macro-levels (House, Rousseau and Thomashunt, 1995). The meso level of the model is the central analysis context, and in this study, it is the socio-health context. The social practices here are concerned with interactions of powers to achieve goals through the use of mechanisms capabilities. As such, it is concerned with interactions that take place within the healthcare context to influence the outcomes in the three levels of social practice, which in turn influences social elaborations of structure and agency power in the interactive and core-power dimensions. The meso notion was that any phenomenon of interest was influenced by mechanisms above and below where it resides, as in the mechanisms of structures and agency and their interactions to influence behaviour. Thereby, the main goal of research and theory employing a multilevel model is to synthesise and analyse the meso-level interactions between micro and macro-mechanisms to identify causal relations of actualised outcomes (House et al., 1995, p. 73).

Macro 'Structure' level

Macro-level are generally system drivers that keep order and control, it represents the sources of wider determinants like socioeconomic status, and when social practice is equal and collaborative, individuals or groups can alter the social elaborations (Sen, 1992; Cockerham, 2005). However, changes at macro-level is usually tethered with collective agency core-power in the meso-level and cannot be influenced by the random agency interactive attempts, such as insisting on questioning a healthcare professional during their encounter (Phelan, 2010). Macro-mechanisms, such as the healthcare system policies, sociocultural value system, norms and expectations in society form the *Sociocultural Context* in the CD world. Also, financial abilities, cultural conditioning, life events, for instance, form the macro-mechanisms in an individual's social world that may overlap and feature significantly for individuals in the world of CD management.

The mechanisms and conditions are stratified in micro- and macro-levels in an interest to identify problematic social sequences occurring in the meso level. Therefore, the model explicates a causal account of health behaviour by modelling multilevel mechanisms, thereby, pointing to gaps in the production of such phenomenon '(Craver and Bechtel, 2007), where each social level represents a mode of analysis that may offer explanation of power at a social level. However, the meso social level represents the interaction of powers that are employed in conflicts between the macro- and micro-levels to account for causation of behaviour. Therefore, model recreates a chronic disease world to analyse and explain social behaviour to identify the mechanisms at intersections between levels of social practice and dimensions of power.

The Three Dimensions of Power

The model identifies powers in the domains of reality and therefore represents parallel dimensions of power that also reflect a timeline of power transformations. Time is a quality borrowed from the dimensions of power in reality and their diachronic properties which informs about temporality of specific power dynamics in specific social level at a particular transformative interval in time (Archer, 1995; Bhaskar, 1998). For example, the actual domain, in its outcome dimension, provides knowledge of power development or possessions that were initially influenced by previous interactions in the two other dimensions (Archer, 1995). The real domain constitutes the dimensions of power as interactive-power and core-power. The interactive-power dimension reflects competence in advancing interests in social processes to influence social events outcomes (Bourdieu, 1989); in turn, manifestations of interactive-powers influences the core-power dimension, which is then transformed to affect the actual domain outcomes. The core-power serves to stabilise or *morphogenise* social practice; also, it coincides with social legitimisation of power and autonomy against barriers.

The parallel dimensions of power are made to reflect Archer's (1995) chronological transitions that inform about specific influences on power dynamics in the three social practice levels. The micro-, macro- and meso-levels of social practice reflect the interdependent relationship between structure and agency and their interactions (Li, 2012). The intersection of power with social levels has advantaged the analysis of social practices to synthesise methodological and structured causal explanations on behaviour.

Power transformations in the three dimensions of the actual and real domains reflect movements in time, helping to identify changes in each social level (Sen, 1993; Elder-Vass, 2007b). For example, changes in the dynamics of health literacy and psychological empowerment and their manifestations were identified in the agency level of the model as power transformed. Movement in these dimensions overlaps and in a state of continuous power transformations or behavioural developments. Thus, movement in the behavioural developments correspond with the three power dimensions: actual outcome, real interactive power and real core power, and can be specified in phases: the novice, interactive, and autonomous, respectively. Therefore, each behavioural phase reflects the descriptions of power in each dimension which specifies the characteristics of each phase. Thus, patient capital specifies the characteristics of each behavioural phase because each power dimension at the agency level is specified by patient capital. Table (27) provides examples of the influences of different patient capitals on behavioural outcomes and explicated three patterns of behaviours: independent, dependent on social resources or the HCS, and risky health management.

Although the Health Empowerment Model conceptualised different patterns of behaviour for the different categories of health literacy and psychological empowerment; nonetheless, patterns of patient behaviour were influenced by multiple micro- and macro-mechanisms in the social world and the chronic disease world. Developments of health literacy and psychological empowerment in the social world were influenced not only by individual characteristics but also by social capital. Ideally, chronic disease patients are expected to transition through the behavioural phases in a supportive modality of care. Therefore, explanations of the patterns of behaviour in this study became more comprehensive than the HEM because the different patterns were identified based on the adequacy of individual characteristics and social capital.

A more comprehensive description of the behavioural phases is going to take place in the coming section. Also, patient capital is further explicated as the developments and expansions of health literacy and psychological empowerment are also influenced in the healthcare context. The explanatory model was useful in pointing to this finding, particularly, Archer's morphogenetic sequences principles helped identify these mechanisms, while Bourdieu's concept of power explained the conflicts in agency and structure interactions and their outcomes on agency manifestations.

6.3.2 Morphogenetic Intersections

The micro-, macro- and meso-levels of social practice and the dimensions of power: the outcome, interactive- and core-powers have defined boundaries; however, their dynamics may cross contexts and continuously overlap when a collection of mechanisms and conditions are aligned at a time (Bhaskar and Danermark, 2006). The levels of social practice represent social contexts of structure and agency while the domains of reality represent power and timeline, and their intersections provide an interpretation of the social sequence that took place. These multilevel mechanisms of power are inactive until they intersect in the meso-level at a point in time. Thereby, social sequences are created when agency and structure mechanisms cross their boundaries into the meso-level, the social events level, and this is supported by CR's position on ontology to understand and explain knowledge by differentiating reality (Bhaskar and Danermark, 2006). For example, a healthy individual is irrelevant in the world of chronic disease management; however, symptoms of hyperglycaemia may send this individual into the world of chronic disease and across their agency social context into the socio-health context of CD world.

Critical realism's strong ontological perspective on knowledge claims is matched by a flexible epistemology to adopt multiple theoretical models or methodologies for advancing substantive explanations about causality (Bhaskar, 1978). Therefore, morphogenetic sequences occurring because of intersecting levels of social practice with the domains of reality of critical realism are made to resolve analytical and explanatory complexities of behaviour (Bhaskar et al., 1998; Archer et al., 1999). The multilevel model isolates social sequences responsible for the production of social outcomes; therefore, analysis of interactions in the meso-level for each power dimension can be used to identify problematic sequences in social practices. The applicability of the identified multilevel morphogenetic intersections in a social world reside in the identified conflicts between social actors/entities in problematic social sequence, thus, informs on tailoring methods and interventions that best affect change.

6.3.2.1 The Multilevel Interactions

The discussion here begins with the study's significant findings and considers the morphogenetic sequence in structure and agency of the model. CR stipulates a multiple reality concept of three parallel dimensions responsible for power and causation of behaviour as specified in the model.

Archer's (1995) timeline empirically explains that the outcome of the interactions in the events or meso-level affects the structures and agency involved in that social conflict and shapes their powers in the form of gains or losses in capital and capabilities. Archer's diachronic perspective focuses on the dualism between the interactive-powers of structure and agency and their outcomes; however, the model extends beyond the morphogenetic sequences between the interactive and outcome dimensions and adds the core-powers dimension which acts against opposing mechanisms for the purpose of stabilising or transforming social practice. Therefore, Archer's diachronic analyses are performed not only on possession of power and interactive mechanisms between structures and agency, but also on manifestations of autonomy against barriers. The following table (28) provides an example of multiple interaction sequences and transformation of powers at the structure and agency levels.

Table 28: Multiple Morphogenetic Sequences at Structure and Agency Levels

	Core-power ⟷	**Interactive-Power** ⟷	**Outcome**
Agency Level ↕	Patient capital recognition and agency legitimacy issues Absent agency action	Inadequate patient capital	Minimal HL and PE capabilities development Possession and development are dependent on social capital
Structure Level	Sociocultural legitimacy of power Controlled and stabilised social practice	Paternalistic modality of care Encounters are short and medicalised management	Health inequality Health disparity

Furthermore, the model not only identifies outcomes at agency level but also at the level of structure within the actual reality domain. The continuous transformations of power in each level is influenced by the outcomes in each power dimension. These outcomes are generated in the social events level (meso-level) and influences agency behaviour and HCS conditions in the social world of chronic disease. To elaborate, while structural powers were legitimised and continue to undermine agency due to lack of agency legitimacy in policy text, health literacy and psychological empowerment were minimally developed. However, the conditions in the HCS were constrained because of increased patient-load and HCS expenditure to control chronic disease (Central

Statistical Office, 2017). These actualised outcomes of patient capabilities influenced the adequacy of patient capital in the interaction with the paternalistic modality of care. Then again, recognition of patient capital and agency legitimacy were influenced negatively by the inadequate health literacy and psychological empowerment transformation into a core-power. Thus, outcomes are reproduced, and the sequences continue to influence patient agency and burden the HCS.

The section on interpretation of the model provides a discussion of the meso level outcomes and details the identified patterns of agency behaviours and the conditions in the healthcare system. However, the following sections discusses the outcomes in the structure and agency levels, with particular focus on agency.

6.3.2.2 Outcomes at the Structure Level

At the structural level, agency control is achieved and the HCS core-powers are further legitimised socioculturally; nevertheless, chronic disease, budget burdens, and alarming health outcomes remain challenges to the HCS. Outcomes in the macro-level are where systems acknowledge their successes or failures (Reason, 2000). Besides patient behaviour, the healthcare system also experiences shared influences at an organisational level. For example, the management of chronic disease is medically oriented which can be problematic to behaviour because it does not focus on behavioural developments in patients, and the size of the problem is worsening the conditions in healthcare services. In response to the strained conditions, the HCS tends to ask "what or when" questions concerning the problem of chronic disease patient behaviour, rather than "how or why" questions. Therefore, the HCS usually blames the human variable as the reason for their failure as a system, evident by the healthcare systems funding of programs and strategies to correct and control chronic disease patients (Asaria, Chisholm and Mathers et al., 2007; Karageorgi, Alsmadi and Behbehani, 2013; Reason, 2016). Thus, the HCS assumes control with the paternalistic management; nonetheless, this management is creating a vicious cycle that is worsening the conditions in the HCS. Because a paternalistic management disregards agency and needs for independence it promotes helpless behaviours which warrant recurrent and frequent access. Therefore, outcomes in the sociocultural context show increased burden on budgets and resources as a result of the management modality of chronic disease which contrary to agency needs undermines agency behavioural developments. Additionally, although the social norms on chronic disease patients role sanction the helpless and dependent role; nevertheless, tensions in values and beliefs systems were found to arise among patients on their role expectations and are challenging the sociocultural norms of being subordinate in their health management.

6.3.2.3 Outcomes at the Agency Level

Patients' outcomes at the agency level inform on capabilities development, particularly in health literacy and psychological empowerment possession. Since power transformations in the model are continuous, then the adequacy of health literacy and psychological empowerment developments were found to influence the way patients employ their mechanisms in the interactive-dimension where interactions occur with the HCS. Thus, agency power has transformed from possession to an interactive-power. Furthermore, the outcome of the interactions occurring between patients and the HCS may then transform agency power into a core-power concerned with manifestations against structure powers. Nonetheless, the identified patterns of agency core-power in this study were latent, dormant, or rebellious agency, but not autonomous agency (Sen, 1992, Archer, 1995). These identified outcomes in the core-power dimension were the result of the influences of the modality of care in the HCS on different patient capitals.

Outcomes in the actual domain of agency reflect the possession of capabilities that influence the kinds of agency patients manifest in their health management. Health literacy and psychological empowerment are initially developed in the social context; nonetheless, when individuals cross the social context into the chronic disease world, health literacy and psychological empowerment transform to capabilities employed in the socio-health context and influenced by the interactions of that context (Sen, 1993). Explanations of health literacy and psychological empowerment depend on the context in which they are explored; thus, this contextual approach provided a substantive account on health literacy and psychological empowerment in the chronic disease world. Health literacy and psychological empowerment developments were found to be influenced by micro-mechanisms (e.g., age, skills, education) and macro-mechanisms in patients social world (e.g., life events and experiences), while their expansions were found to be negatively influenced by mechanisms in the healthcare context (e.g., the modality of care).

Alternatively, health literacy and psychological empowerment developments and expansions were found in patients who were advantaged in terms of social opportunities, rather than the limited opportunities in HCS. This explains that social capital was able to overlap in the healthcare context to influence health literacy and psychological empowerment expansion, instead of the healthcare system. Therefore, health literacy and psychological empowerment may develop in the social context, but their expansion should occur within the healthcare context, since agency level outcomes are viewed here as a result of social interactions occurring in the socio-health context. Latent, dormant, and rebellious agency are advanced as the patterns of behaviour observed in patients and their multilevel generative mechanisms provide a causal account of their developments and expansions that is more comprehensive than the interaction of individual characteristics and social capital alone.

Analysis of the different kinds of patient capital specified three patterns of health management behaviours: independent, dependent, and risky (Table 27). Nevertheless, patient capital was found to undergo another set of macro-mechanisms in the world of chronic disease, mainly the modality of care. Therefore, the identified patterns of health management behaviours would have been sufficient to explain behaviour if the HCS is collaborative and attentive to agency and patient capital. However, the diachronic interrelationship between patient capital and healthcare systems mechanisms accounts for causative explanations about health behaviour, and answers how health behaviours are produced and why there were different patterns of agency among participants. For example, latent agency was found in patients with unsupportive social capital and inadequate capabilities, the last category in table (27), while a discrepancy in the support of social capital or individual characteristics was found to manifest as dormant agency, the two middle categories. On the other hand, the first category in table (27) manifested rebellious patterns of agency in patients who enjoyed a supportive social capital and individual characteristics.

Health literacy and psychological empowerment interactions with social capital and modality of care mechanisms shape the way patients craft their health choices and manifest agency. Although health literacy is equally important, it is not as socially interactive as empowerment in the matter of advancing choice. The argument is that psychological empowerment is a critical capability in chronic disease patient agency to competently act on health literacy and autonomously negotiate their way within the limits of existing rules and resources. However, patient capital appears to be inadequate in patients attempts to manage their health and achieve their goals of independence. Patients' profiles demonstrate the centrality of active agency affected by health literacy and manifested by psychological empowerment, as a key agential capability through which patients manoeuvre their health and social constraints.

6.3.2.4 Agency Power

The interactions of psychological empowerment in the socio-health context signify its role as a psychosocial mechanism that helped explain patient agency. The competency and autonomy dimensions of empowerment are theoretically analogous to the dimensions of the real domain. The interactive-mechanism dimension is concerned with the competence to interact with health issues and to carry out health literacy plans, while autonomy reflects patient agency against social powers to achieve health literacy decisions and plans. Nevertheless, the case of empowered patients appears to be more consistent with the argument that active patients desire the agency of autonomy (Aujoulat et al., 2007).

Health is a life priority for empowered patients, through which they aim to self-manage and change restraining social powers to achieve their goals. In this journey with chronic disease management, empowered patients did not hesitate to break the barriers of structures or established norms within their culture system. Quality of life and being healthy to do roles, mainly sought through constant dedication in obtaining information, experience, and competency, are recurring themes in their profiles. Patients with this capability demonstrate a high level of meaningfulness and competency in implementing their health management plans, while their prioritisation of health offers a sense of autonomy and control. Patients use available social spaces to exercise health literacy and demonstrate power towards the constraining mechanisms that operate around them. Through dedication to health, patients gain a source of power to confront traditional practices of chronic disease patients. Nonetheless, they were found incapable of affecting change in the HCS context; thus, they rebelliously demonstrated actions of health management outside the healthcare system. While latent agency patients manifested passive attitude towards their health and dormant agency patients manifested a dependent behaviour on the resources available to them.

Patients' expectations on their role as active self-managers are growing, and the general sociocultural norms in the chronic disease culture are being reconceptualised by most and challenged by the few rebellious agents. Empowered patients claim another unique pattern of health behaviour driven by values, which entails choices that attempt to create settings to practice agency in congruency with their health management values. These choices set empowered patients apart from others, and the way they respond to the powers of the health care system is different latent or dormant agency. Patients with this rebellious orientation are not ready to compromise their values to cultural or structural influences. Because of this rebellious attitude, they find constant incongruence between their contexts and values. This incongruence leads them to find or create supportive social and health settings, generating a unique pattern of social elaboration to the power of the healthcare system.

Empowered patients do not hesitate to challenge or contradict the established expectations, beliefs, traditions and norms of the social and health systems in trying to protect their valued health goals. These patients attempt to practice autonomous empowerment in creating opportunities that would offer better conditions to realise their health plans or choices, nevertheless, outside the power of the HCS. These psychological empowerment manifestations could also be an emancipatory strategy to overcome deterministic structures and culture, in a demonstration of power against social and HCS influences. Even though being health literacy and psychological empowerment does not mean emancipation from the HCS; instead, it means the emancipation of the helpless and passive role in health management. Therefore, the expert medical authority remains an active power in the encounter; except, power is balanced in a shared and collaborative relationship (Varul, 2010).

Multilevel mechanisms modelling helps explains how power is transformed in patients from being developed, interactive to core-power in the world of chronic disease. Therefore, causation in behaviour is drawn from specific locations by intersecting the three levels of social practice (the macro structure, the micro agency, and the meso events levels) with the three reality dimensions of power (the actual outcomes and the real, interactive and core powers). Thus, the three patterns of agency were accounted for by the mechanisms originating from related social contexts and their interactions as social events occurring in the meso level. Furthermore, each context can be telescoped into to provide narrow explorations of social dynamics and causal relations and further explain the world of an actor/entity's context. For example, a narrow exploration of patient individual characteristics and social capital is included in the model in figure 8 to provide interpretations about causation originating from patient social world.

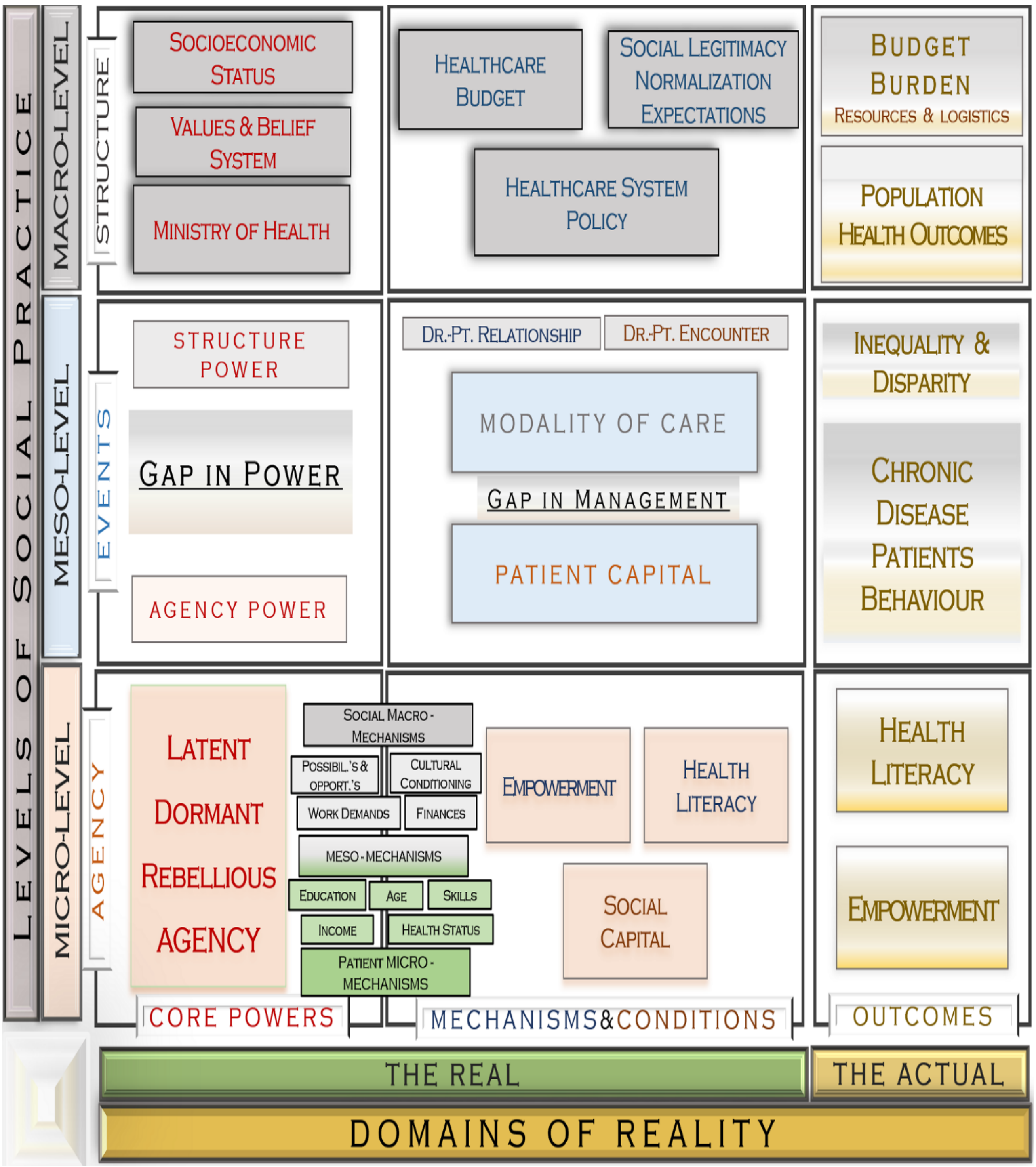
6.3.3 Interpretations of the Model

Figure 8 illustrates the findings and conclusions of the study exploring the mechanisms influencing chronic disease patient health behaviours in Kuwait. It integrates the parameters of an original model of CR theory, principles of structure and agency, capitals and capabilities, and power in social conflicts woven with an implicit sociocultural perspective considering cultural manifestations like society expectancy, normalisation, legitimacy. Most importantly, this model considers the morphogenesis of power beyond the intersection of the interactive powers and their outcomes (Bhaskar, 1978; Bourdieu, 1989; Sen, 1993, 1995; Archer, 1995; Archer et al., 1999; Bhaskar and Danermark, 2006;: Elder-Vass, 2007b).

This model explores social conflicts between structure and agency by identifying their social sequences and their applied mechanisms in the meso level to advance interest and achieve goals (Bourdieu, 1989). In this study, agency interactive-powers reflect patient capital that is employed to achieve agency and independence in the conflict with the structure that seeks to achieve control over chronic disease patients management (Brown, 1999; Karageorgi, Alsmadi and Behbehani, 2013). Although, agency interest in achieving functionality in health, and structure interest in reducing chronic disease burden serve a common goal, however, the conflict arises in the mechanisms employed in the meso level by structure in seeking social achievements (Rütten and Gelius, 2011). Social achievements are defined as the outcomes of social events that are experienced and actualised in reality. Such as the current account on patient health behaviour, and the conditions in the HCS.

The findings of health behaviour and agency patterns were interpreted using the explanatory model of generative causation. It has guided analyses and explanations of the different patient capitals that interact with the stable and recurrent power of the HCS, and guided identification of gaps in theses social sequences. The outcomes of these varied influences on transitions in the behavioural phases bring concerns about patient agency, as there were three ineffective patterns of agency found to coincide with the behavioural phases. The three patterns of agency were developmentally stagnant in the current paternalistic healthcare system, especially patients with low social capital. Even though the interviewed sample demonstrated resilience and desire to achieve their goal as autonomous agents (Schulman-Green, Jaser and Martin, 2012). Although inadequate individual characteristics can influence patient capabilities; however, the significant influence of social capital on health literacy and psychological empowerment and the patterns of agency implicate the HCS absent role in behavioural developments (van Gool et al., 2007).

Figure 8: A Visual Representation of the Explanatory Model of Generative Causation in Chronic Disease Behaviour



The meso level locates direct mechanisms in the management of chronic disease in a specific patient or a group of similar patients. Thus, the findings indicate that unhealthy behaviour is caused by gaps in the processes of that social exchange. The failure of HCS influences unhealthy behaviour by inadequate management of chronic disease and its patients, and by dominance of structures in the social health context (Giddens, 1979). On the other hand, patients in the pool of chronic disease population come in the healthcare system with different capitals that influence their behaviour, do health literacy and psychological empowerment capabilities, and social life circumstances. However, unlike a paternalistic healthcare system, a collaborative HCS policies aims to manage and reinforce patient different capitals and generate better behavioural outcomes in these patients.

These multidimension interactions between structure and agency produced the actualised outcomes in the meso-level. Patients' health behaviours were mostly passive and dependent, and health inequality and disparity in the HCS were observed in the social world. Dependent patients on the healthcare services usually do not receive support to improve their capabilities; thereby, they frequently accessed the HCS and influenced patient flow in the HCS and load on healthcare professionals (Williams, 2013). Whereas, passive patients found access to healthcare services problematic, and independent patients found the conditions of the HCS uninviting; therefore, both limited their access to the HCS to medications refills.

As a result of the policies concerned with chronic disease management and the duality of the HCS power, the outcomes of multilevel mechanisms modelling pointed to problematic social sequences that are influencing power transformations. The interactive-mechanism of the modality of care employed by the HCS was found to disregard agency capital in the social event level; and that did not only influence outcomes in the meso-level, but also at the structure and agency levels which make the modality of care a principal mechanism shaping social elaborations in the world of chronic disease.

Although health literacy and psychological empowerment are important explanatory mechanisms in chronic disease management behaviour; however, social capital provided better explanations about the behavioural manifestations of health literacy and psychological empowerment, especially when accounting for the modality of care. Patients with adequate social capital were able to manifest independent healthy behaviours that reflected the interrelation of health literacy and psychological empowerment. Whereas inadequate social capital influenced behaviour despite health literacy and psychological empowerment relationship. The explanatory model explains that there are gaps in the behavioural management chronic disease patients. Thus, the interactions of the medicalised modality of care with different patient capitals undermined health literacy and psychological empowerment, agency power transformations, and influenced the outcomes on the three patterns of agency. The patterns of agency indicate that patients have not transitioned effectively through the behavioural phases and the model helps explain why their agencies are latent, dormant or rebellious.

The first gap in the behavioural management influenced patients with inadequate capital to assume passive and dependent behaviour. As the modality of care is found to reinforce the helpless role by focusing only on clinical management of chronic disease, patient agency expansion became dependent on social capital. The influence of the modality of care can explain the tensions observed around the outcomes of chronic disease patient behaviour. As patient behaviour is mostly suboptimal and chronic disease burden is increasing, despite increased expenditure by the HCS. The other behavioural gap specifically influences legitimacy and recognition of patients with adequate capital. Active agency is unrecognised in the Kuwaiti healthcare system and culture, which helped normalise the passive sick role. Also, the healthcare policies do not seem to legitimise agency role in the management of chronic disease, which explains patient independent behaviour outside the HCS.

6.3.3.1 The Novice Phase and Latent Agency

The dimension of actual outcomes coincides with latent agency and the novice phase, which indicates the actual possession and development of health literacy and psychological empowerment as they are measured in patients. Interpretations of the model support that patient capabilities are initially influenced in the agency social world by social capital and individual characteristics (most prominent: age and level of education). However, when individuals cross into the socio-health context, health literacy and psychological empowerment are mainly influenced by a paternalistic modality of care.

The novice phase begins with a specific event that requires an individual to cross into a new context, as when introduced to the HCS context with a chronic disease diagnosis. Even though it was found that some patients develop their health literacy and psychological empowerment through social life events without being proximal to the healthcare context (Taylor and Aspinwall, 1996); however, this phase is mainly concerned with the arising needs for health management capabilities developments, particularly health literacy. Since patients are introduced to a new context; thus, health literacy skills become a priority to be able to process new health information, comprehend the extent of their condition, and formulate informed decisions to manage the daily demands of chronic disease.

However, inadequate patient capital in the novice behavioural phase indicate that health literacy skills are not developed or supported in the HCS. Therefore, patients usually manifest passive behaviour inside the HSC context and risky health management behaviour inside agency social context; thus, their agency is specified as latent agency. Latent agency behaviour is developmentally stagnant in the novice phase where capabilities, health literacy in particular, are yet to develop. Patients in this phase were found to have inadequate social capital and individual characteristics; therefore, their agency is expected to remain latent if the modality of care remained medicalised.

The modality of care explains the significant and continued influence of social capital in the support of health literacy and psychological empowerment possession and development. Because implementation of a behavioural management is challenging to healthcare professionals in a modality of care that focuses on the medical management of chronic disease. This explains patient demands to improve their capabilities, because possession of adequate patient capital is a requirement to transform agency power into competent capabilities in the interactive phase, otherwise, patient agency remain latent in this phase.

6.3.3.2 The Interactive Phase and Dormant Agency

The real domain of interactive mechanisms coincides with dormant agency and the interactive phase, which indicates the importance of expansion of adequate capabilities, competency dimension of psychological empowerment in particular, to interact competently with health in the agency and healthcare contexts. However, patient health management in dormant agency were found to be mostly dependent on available social resources or the HSC. Where the latter limits these interactive mechanisms to following instructions on medications.

The interactive phase refers to the development of health literacy skills and the transition of behaviour in patients to be able to apply health literacy skill in health management. This phase is influenced by the development of the competence dimension of psychological empowerment. It reflects patient competency to interact with the experiences received in the healthcare context, and patient engagement with health management in the agency context. Therefore, participation in health management is advanced by employing interactive mechanisms in the healthcare context and agency context health management.

Patients who transition to the interactive phase with low levels in psychological empowerment or a discrepancy in capabilities and social capital adequacy usually manifest dormant agency. Thus, mechanisms like immediate support become active as a principal mechanism to replace low levels of psychological empowerment in the interactive dimension of power (de Ridder et al., 2008), or the mechanism of high health literacy may compensate for unsupportive life circumstances to help in following medication instructions as form of participation in health management. Therefore, their dormant agency implies an interactive power that operates only in the agency context and manifests dependent behaviour on social resources or the HCS in both cases. Which explain the importance of bridging the gap between implementation of behavioural management and patients demands for support to improve their competence. Otherwise, dormant agency continues to influence dependent behaviours and frequent usage of HCS and prevent behavioural transformation into the autonomous phase.

6.3.3.3 Autonomous Phase and Rebellious Agency

Rebellious agency and the autonomous phase coincide with the dimension of core-powers which is concerned with the power of agency capital against structures and barrier in the agency and healthcare contexts. The autonomous phase is characterised by a consonant patient capital and a collaborative HCS with agency. However, patients with a consonant capital were found to independently manage their health outside the healthcare context in a rebellious social elaboration that challenges the dominance of the HCS on active patients.

The autonomous phase represents the transformation in power dynamics from the competence to autonomous dimension of psychological empowerment as a core-power in health management. Patients in the autonomous phase are expected to create congruent settings for their health management goals and demonstrate active health behaviour inside and outside HSC context. Nonetheless, autonomous agency was not observed in the interviewed sample, instead, patients were found to demonstrate independent and active health management behaviours outside HSC context.

Rebellious agency relates to patients with adequate capital and implies active and independent behaviour and indicate that their agency power has transformed into a core-power. Rebellious agents were found to create health management settings outside the paternalism of the HCS because their agency is neither recognised nor legitimised. Which explains the influence of the gap of active agency recognition and legitimacy on the tensions experienced by independent health manager. However, patient core-powers can be recognised in the healthcare context when patients are provided the space to competently apply their capabilities in balanced interactions with professionals. Thus, patients have opportunities to exercise their capabilities in the HCS under the guidance of professionals; to support power transformation into autonomous power and to legitimise their agency in the sociocultural context.

The modality of care affected the conditions in the HCS and was found to mainly influence agency, but also agency was influenced by the sociocultural values and belief system which was initially influenced by the social practice in the HCS. These structural mechanisms have influenced patients with adequate capital and created the gaps that explained tensions on independent but rebellious patients.

6.3.3.4 Patient Capital: Behavioural Developments and Legitimacy

Patient capital and behavioural phases may clarify the relationship between chronic disease patient agency challenges and change requirements, and thereby, may provide better links between CD patient assessments and healthcare interventions. Each behavioural phase reflects health literacy and psychological empowerment specific requirements, and the characteristics of each phase coincide with agency power transformations across the dimensions of the actual and real domains of reality. Thus, the three phases reflect agency power transformation in possession of health literacy capability, competency dimension of psychological empowerment capabilities as interactive-mechanisms, and autonomy dimension of psychological empowerment that manifests agency power against structures, respectively. The concept of patient capital provided knowledge on behavioural development transformations from novice, to interactive, and autonomous. Therefore, it specified the needs and challenges endured in the journey of chronic disease, and at the same time, the intervention required to transform agency power across the behavioural phases.

Patient capital influences the support needed for health literacy to arrive at informed health choices as well as the support for competency in psychological empowerment to engage in health management. This finding was informed by the study's theoretical perspective on patient capability by Sen (1993). Accordingly, the healthcare professional may benefit from recognising the developmental needs of patients to create phase-based plans that meet the different needs of CD patients with respect to their capacity to benefit from these plans. The behavioural phases identify the unique cognitive and psychosocial challenges faced by each developing agency. Therefore, the phases are set to overcome the challenges and needs of health literacy and psychological empowerment capabilities developments by providing extractable content in a timely fashion.

The description of Bourdieu's symbolic capital informed the influence of the healthcare and sociocultural systems on independent health managers. Bourdieu's symbolic capital operates on the premise of capital recognition based on a value system in a group or field where the capital is introduced. Hence, patient capital may or may not exude power in social interactions unless it is legitimised by society, despite patient capital assets. In that way, despite the range of identified patient capitals, they may not exude agency in the HCS unless patient capital is recognised culturally and legitimised in HCS policy texts. Some patient capitals were found consonant with autonomous health management, their capital was not recognised or trusted in the healthcare system as in the case of rebellious agency, and therefore, their agency was not legitimised. Which explains the tensions experienced by patients with adequate capital in the HCS, and further supports explanations of their demands for emancipation.

The proposed behavioural component strategy intends to ease tensions of legitimacy issues in rebellious agency, and in the behavioural management of latent and dormant agency. Accurate assessments of patient capital helped to determine patient needs and challenges to transform their agency by creating specific interventions to expand patient capital into a consonant one with autonomous agency. The proposed behavioural component is based on the theoretical context and analysis of the model findings on the social practices in patient health management. Therefore, assessments are guided by the tenets of the research theory to formulate standards in identification of the real mechanisms generating the observed social practices in the three patterns of agency (Edgley et al., 2014).

The emancipatory purpose of critical realism in the form of achieving the normative, the way things should be, in the problem of health behaviour in chronic disease patients requires transformation of the current practice in the Kuwaiti HCS, most importantly transform the way the healthcare system manages patients' health behaviour. The following sections outline practical strategies to change the current practice and tackle the principal mechanism of the modality of care influencing chronic disease patient agency.

6.4 Chronic Disease Management Transformation Strategies

Even though patient capital influences behaviour, nonetheless, it is theoretically asserted and empirically demonstrated that a collaborative HCS improves population health outcomes (Gulliford, Figueroa-Munoz and Moragan et al., 2002). On the contrary, the current modality of the HCS was a determinant of patient agency and budget burden. The structural mechanisms in the HCS context were activating principal mechanisms and conditions that causes unsupported patients experiences. Interpretations of the key findings of the study helped specify that the modality of care affected patient's agency and HCS resources through interdependent mechanisms specified as the following: lack of behavioural interventions and healthcare system conditions (access and healthcare professional roles).

These mechanisms of the modality of care ontologically explained patient behaviour; thus, policy changes on the modality of care in chronic disease management is a priority to permit application of transformation strategies on these mechanisms. The goal of introducing transformation strategies is to create opportunities to implement changes that improve health literacy and psychological empowerment, and subsequently, health behaviour and the burdens of chronic disease.

Policy and decision-makers are encouraged to invest in chronic disease patient agency and recognise patient pivotal role in reducing the burden of chronic disease. Also, they are encouraged to benefit from the knowledge gained from this study and to employ the transformations principles of this section on the identified mechanisms that restrain health behaviour in chronic disease patients.

6.4.1 The Healthcare System and the Problem of Management

The modality of care was found to affect the conditions in the HCS and to create a recursive loop between the burden on HCS resources and CD patients' health management needs. Thus, the recursive loop instigates the healthcare system to modify the situation to better manage the distribution of purposeful resources to chronic disease patients. Hence, it is practical to implement changes to the modality of care to deactivate the constrained conditions in the HCS. Therefore, changes to the modality of care are recommended to transform the current strategies and unjustified distribution of resources in chronic disease to match patient health management requirements and the capabilities of patients (Sen, 1992; Abel and Frohlich, 2012).

Policy Modifications Within The HCS

Transformation of the current practice in the Kuwaiti HCS should tackle the burden of chronic disease at its root causes; therefore, the current situation demands changes to take effect in the policies that govern the management of chronic disease. The mechanisms of the modality of care urge revisions and modification of the management policies in the HCS, because these mechanisms point to two main problems of management in the HCS: management and distribution of resources and management of chronic disease patient behaviour. Therefore, policies should be operationalised to transform the management of chronic disease resources, and management of chronic disease patient agency.

However, the relationships between the mechanisms that were generated from these two management problems were identified to be interdependent and overlapping; hence the theoretical model of the study points to a multilevel intervention approach which promises an effective solution (McCormack et al., 2017). Therefore, creating an effective but single intervention to improve health literacy without consideration to the strained doctor-patient relationship or the limited encounter may not produce the desired transformation. Thus, the influences on behaviour require action at a structural level to synchronise the conditions in the HCS with the proposed behavioural component. Changes to the modality of care require modification of resources to accommodate activities of the new management and operationalisation of new roles for healthcare professionals (WHO, 1986). Thus, integration of the identified mechanisms with the theoretical context of the study promises an effective solution to the current problem of management.

Policy modifications should recognise the active role of chronic disease patients and agency development needs; and to direct the HCS focus on assessments of the different patterns of agency and distribution of resource accordingly. For example, rebellious agency requires different resources and management in comparison to dormant or latent agency. Unlike the other patterns of agency, latent agency manifested unhealthy behaviours and risky health management due to overlapping multi-level mechanisms, such as: low patient capital and the conditions generated from the modality of care. Therefore, patient capital assessments can help predict the patterns of patient agency, identify generative mechanisms, and implement multilevel interventions to target these influences on patient agency. As those who are in the most need of specific interventions are the ones struggling with the conditions of the HCS and the least to have access to other resources (Rowlands, Protheroe and Winkley et al., 2015). Thus, the importance of modifying the current modality of care from medically oriented care to one that accounts for agency behavioural development is justified to benefit patients agency, especially patients with the highest risk, and subsequently reduce the burden of chronic disease (Coleman and Newton, 2005).

The suggested transformative strategies are intended to benefit the three pattern of agency and improve their behaviour. Particularly, patients with low health literacy and psychological empowerment who struggle with detrimental mechanisms in their social world are expected to benefit the most from these policy changes (McCormack et al., 2017). For example, absent immediate support influences patient health management, especially in patients whose capabilities were inadequate. Therefore, mechanisms of absent immediate support can be targeted indirectly by behavioural interventions that address patient health literacy needs and psychological empowerment support. Thereby, minimise the influence of low social capital on patient health management.

Given the current burden of chronic disease and findings of this study, it is recommended that the Kuwaiti HCS invests in patient agency behaviours as it is invested in medical interventions to avert the burdens of the current situation. The findings of this study and the literature point to the critical role patients play in chronic disease management, and that requires the HCS to recognise patient health management capabilities and needs, and most importantly to legitimise the overdue patient agency. Therefore, policymakers are recommended to change the HCS strategies to re-coordinate healthcare processes and implement behavioural interventions in chronic disease management.

6.4.2 The Behavioural Component in Chronic Disease Management

Sen's capability approach (Sen, 1992) proposes that social resources and interventions to be primarily delivered according to the extent of patient capabilities to achieve their agency in health management. The behavioural component recognises the significant influence of health literacy and psychological empowerment on health management, as well as the influence of the healthcare system. Therefore, the behavioural component adopts Sen’s principles to guide health literacy and psychological empowerment management in chronic disease patients. Thus, it aims to create opportunities for agency development and expansion and aims for balanced interactions within the HCS to affect social elaborations equally. Therefore, patient capital can be employed to guide assessments of patient capacity to manage their chronic disease while the identified mechanisms in this study can be employed to identify agency needs. Additionally, long chronic disease onsets indicate more years of clinical experience; thus, most patients with long disease onsets were found to have a broader understanding of their condition. Therefore, additional assessment data on disease onset help estimate patient's experiential knowledge and identify the complexity of health information needed, while data on social capital help identify psychosocial challenges experienced by patients on their journey in chronic disease (Hoffmann, Pfiffner, Hornung and Niederhauser, 1995; Eriksson, 2011). Thus, these assessments data serve as criteria to deliver matching behavioural interventions.

On the other hand, a patient's health status is a known influencer in the way patients respond to their health and may influence the way they use their patient capital (Schulman-Green et al., 2016), and thus, can be argued to be considered in behavioural assessments. Nevertheless, health status exclusion is justified in this intervention for its particular influence of suspending patient agency, which contradicts the recommendations made here. The findings presented in chapter five, sustain that threats to health in the form of symptoms, complications, or perceived seriousness of symptoms prompt seeking healthcare services. Therefore, a decline in health status can deactivate agency temporarily to the medical expertise of the healthcare professional and suspends their functional developments. This process sends the patient in the 'sick role', however, justified for the acuteness accompanying changes in health and symptoms like physical pains, for instance. Also, the HCS using its clinical interventions can fulfil its role in managing patient recovery from the acute ailment to resume their chronic disease journey with an added experience.

Assessment data on health status and patients perceptions of it are best used in this context to assess for interference with patients agency and the proposed behavioural component. The assessment and interventions revolve on the central role of agency in health management. Because the behavioural component in CD management targets patient capital; thus, it intends to help improve patient behavioural developments and legitimise patient agency in healthcare. Planning of strategies and interventions that are unique to each agency needs and capacity to extract benefit form resources should deactivate the macro mechanisms the prevent capital development and expansion. For example, deactivate structural mechanisms of healthcare access in patients with latent agency who are struggling in the current HCS situation.

Accurate assessments are imperative to capture the core challenges defining major behavioural phases in patients journey with chronic disease, I employ concepts from the work of Prochaska in the Transtheoretical Model of behaviour change to clarify their relationships with the dimensions of power, and provide structure to the challenges in each behavioural phase to guide systematic assessments and interventions on patient capital (Maxwell, 2012).

6.4.2.1 Approaches for Agency in the Behavioural Phases

Transtheoretical Model of behaviour change (TTM)

There are several health behaviour models concerned with change, however, to situate the study's empirical data with an established framework that targets behaviour change, the Transtheoretical Model of Behaviour Change (TTM) is recommended (Prochaska and Velicer, 1997). As it is most relevant in this context and considers the defining pillars of behaviour change requirements found in this study. The main psychological presumption in TTM conceptualises that different individuals are at different phases of behaviour change, and therefore, require different processes for change; otherwise, patient behaviour and agency remain latent or dormant (Kelaher et al., 1999). TTM captures six major developmental challenges experienced by patients in behavioural change; thus, it individualises the different behavioural development needs and relates them to patient movement towards change (Cassidy, 1999). The structured relationship of six change processes advance from cognitive to psychosocial support and provide premise to discern the strategies that can be used to promote effective behaviour change for each behavioural phase (Conner, 2002). TTM is most useful to group patients into broad phases that capture the unique cognitive and psychosocial requirements for behavioural change. Integrating explanations from interviewed groups about the challenges experienced along the course of their condition with an established behaviour-change framework informs the planning of longitudinal group interventions to address the unique challenges experienced by patients in the three phases: the novice phase, the interactive phase, and the autonomous phase.

The difficulties faced by patients who are newly diagnosed with chronic disease is a well-known issue in the health literature. However, consistent with the literature review in chapter two, interviewed participants were found to have different needs based on the pattern of agency and the behavioural phase they are experiencing (Holman and Lorig, 2004). The three phases reflect the journey of patient with chronic disease and focus on agency requirements for behavioural developments in accordance with the model's agency transformation. In addition to the literature, differentiation between the three behavioural phases was also drawn from health literacy and psychological empowerment levels and analysis of patients responses on individual barriers to management in the past, present and the future. Patients responses on capabilities developments were similar to other populations in the literature, they shared common experiences, needs and ideas about being ill, and the accompanying emotions and activities to deal with chronic disease and prevent its complications (Sroufe, 1979). These responses were analysed and translated into requirements for patients that help them manage their health. As these requirements help maintain health for these patients, they should be employed as ways to help patients central concerns about their functionality. The collective of these shared experiences and challenges help direct efforts to advantage patient capability development, as they characterise each phase in the development of agency in chronic disease (Hoffmann, Pfiffner and Hornung et al., 1995; Penninx, van Tilburg and Deeg et al., 1997). The three phases continuum reflects the journey of patient agency with CD and focus on agency development requirements for power following the model's power dimensions.

Assessment Principles

As clarified earlier, assessments of patient capital and behavioural phase may reveal not only the kinds of cognitive and psychosocial challenges experienced by CD patients but also the complexity of health literacy and psychological empowerment needs. These specific assessment data serve as a guide to correlate approaches to improve patient capabilities in the modality of care. Therefore, interventions should be employed to resolve macro-mechanisms at the sociocultural level that impede agency in the socio-health context (e.g., lack of behavioural management). In addition, this will help reduce influences of other macro-mechanisms in the social world that prevent patients from health management (e.g., other life concerns and priorities). The following principles are recommended to organise an interventional approach to meet agency development demands in chronic disease patients:

1) It is guided by Sen's capability approach on the importance of meeting agency development needs in a timely fashion and delivered in accordance to their capabilities for them to extract benefit.

2) Allocation to the behavioural phases should be based on accurate measurements of health literacy and psychological empowerment to assess the complexity of health literacy and the competency and autonomy dimensions of empowerment.
3) The three phases are based on power transformation from the model's dimensions; thus, the influences on power development should specify the challenges experienced by patients. Therefore, the model of the study guides the approaches that support development of health literacy and psychological empowerment:
    a. Health Literacy: synthesis of cognitive objectives and extractable content in agreement with the behavioural phases, mainly in the first phase.
    b. Empowerment: creating advantageous and supportive spaces in the HCS to practice competency and autonomy in agreement with the behavioural phases, mainly the second and last phases.

The explanatory model of generative causation employed the method of mechanisms modelling to further explicate the influence of structural mechanisms in the healthcare context of the chronic disease world as they interact with the different kinds of patient agency. The model identified three patterns of agency which explained behaviour in the Kuwaiti healthcare context. However, the paternalism of the HCS impeded power transformations into autonomous agency. Therefore, the following approaches are specific to meet the needs of the identified patterns of agencies and recommends interventions to tackle the gaps that prevented their behavioural developments. The interventions are introduced for each agency; latent, dormant and rebellious, respectively.

McCormack et al. (2017) discussed multilevel interventional designs to target health literacy and patient engagement, and how multilevel interventions can be combined to generate better outcomes. They argued that a lack of theoretical guidance about multilevel interventions may have impeded success of some interventional programs. Therefore, a theoretical foundation to facilitate the development of multilevel interventions is critical to the success of combining interventions to improve health literacy and psychological empowerment. Although the recommended approaches are based on the behavioural phases; nevertheless, implementation of interventions is argued to intertwine and overlap depending on the challenges experienced and the behavioural phase. Also, because Sen's (1992) principles emphasise timely interventions and matching resources to meet current needs which create a high possibility for the interventions to intertwine and overlap. Another principle is that health literacy and psychological empowerment continuously transform in the three dimensions of power and can be seen to exist on a continuum of levels which may have different needs at different times or situations (Schulman-Green et al., 2016). Thus, specific interventions to meet those needs can intertwine and overlap, which indicate the importance of regular assessments of patients' needs and challenges.

Recommended Approaches to Transform Patients Agency

Patients may give up their agency when they experience health management challenges, especially if HCS experiences are unsupportive (Jarvis et al., 2010). Therefore, the brief period after CD diagnosis has a profound psychological influence on how patients adjust to the new context after their health problem has been diagnosed and an initial treatment plan has begun. (Dunbar-Jacob and Mortimer-Stephens, 2001). Also, being diagnosed with chronic disease is as an intense health experience and might point patients to the necessity of health information (van Gool et al., 2007). For example, interventions may begin with a focus on improving health literacy in the newly diagnosed patients in the novice phase to provide reassurance, define expectations of the conditions, and to provide necessary health information.

Latent Agency

The following approach is focused on health literacy and contains three criteria that are specific to patients with latent agency whose behaviour is stagnant in the novice phase. The first criterion in health literacy interventions is important to meet the current cognitive needs and challenges to ensure information retention (Nielsen, 2004). Interviewed participants with low health literacy desired to learn health information to help them make informed decisions in health management; they expressed a need for information-provision in this phase, and a need for rigorous support form professionals to overcome difficulties in processing and understanding health information and prescribed health activities. Therefore, interventions are recommended to be implemented in a timely fashion to address the assessments outcome of patients cognitive needs to: improve basic health knowledge and condition-related knowledge, answer health-related management questions and to clarify fallacies about health and chronic disease (Federman et al., 2012). Also, the contents of interventions are recommended to be sensitive to patient health literacy and skill improvement, and aim to promote health management (Osborn et al., 2011).

Additionally, age and education are significant factor to consider in health literacy interventions. Because elderly patients and those with low educational attainment found difficulties in coping with limited health literacy (Gee, Bienek and Campbell et al., 2012). As age increases, it influences patients cognitive abilities and health literacy (William et al., 1998), thus, their behaviour. Therefore, elderly patients are most affected from low health literacy which require intensive support by the HCS and additional support from their household to improve their health literacy. Because improving health literacy is an effective strategy in elderly patients to decrease frequent usage of health service and to improve health management (Cho et al., 2008).

Patients with low health literacy need tailored information to their capacity or they may lack awareness on the nature and reasons of their condition and without health literacy may not be able to comprehend the relationship between their health and its management (McCormack et al., 2017). Additionally, patient health situations and capabilities may vary and their needs for health information may also vary. Therefore, content is a criterion that minds the appropriateness of information to health literacy level. Among other successful methods to confirm the adequacy of delivered content to patient health literacy abilities is the 'teach back' method used to ensure comprehension of information (Coleman, 2011).

The last criterion is concerned with training healthcare professionals on health literacy to improve their communication skills and abilities to recognise patient health literacy and needs. Because patients do not seem to benefit from random health education, instead, successful health education delivery is affected by the competency of professionals in health literacy principles (Lawn et al., 2009; Coleman, 2011). Therefore, the quality of health professionals' skills and health literacy interventions can influence patient ability to comprehend and apply health information. Nonetheless, there is a gap in healthcare professionals' awareness, recognition and practices of health literacy principles, and their competence in addressing patients with low health literacy (Jukkala, Deupree and Graham, 2009). For example, for health professionals to improve patient capabilities, it is necessary to develop the competence to deliver health information and materials in plain language using communication and make information more accessible to patients (McCormack et al., 2017). In addition, dissemination of knowledge about health literacy and psychological empowerment can raise awareness, and of course, incorporation of health literacy and psychological empowerment content into the education curricula or short courses of health-related school programs is a significant achievement for patient agency in health management (Coleman, 2011; Rowlands et al. 2017).

The model findings indicate that gaps in the behavioural management influenced health literacy in the novice phase. Therefore, it is important to create interventions to benefit latent agency who assumes a passive and unhealthy behaviour because of low health literacy. Because the purpose of health literacy is to contribute to healthy behaviours: through the ability to make informed choices and formulate plans in their health management, and through competent interactions with the new demands of chronic disease to transition to the next phase.

Dormant Agency

The interactive phase is attentive to the psychosocial challenges faced by patients as they become prominent with changes in roles and lifestyles, which makes the interventions concerned with patients support in their interaction and participation in the health management. Interventions in this phase aim to transition patient behaviour and target key influences to develop greater involvement in their interactive agency. For example, behavioural transitions can result from advice by health professionals or can result from patients' recognition of their responsibility to care for their health in an optimal way (Ellingsen et al., 2003).

As in the novice phase, gaps in the behavioural management influenced the competence dimension of psychological empowerment in patient behaviour to be dependent. Therefore, dormant agency whose behaviour is stagnant in the interactive phase may benefit from the following approach. Patients affected by the competence dimension of psychological empowerment require changes in the current conditions within the HCS to be more supportive and motivating of competence in psychological empowerment. Sociocultural capital and resources can be modified to create opportunities to practise participation and involvement in health management. For example, encounters with professionals must be considerate to the management needs of patients in an environment where patients are not rushed through the encounter. Thus, healthcare professionals should aim to reinforce health behaviours and increase the level of information complexity in the doctor-patient encounter (Jørgensen et al., 2017).

Because support for competence and congruent information provision are essential for patients in this phase. Also, a collaborative doctor-patient relationship provides opportunities for information exchange and knowledge development which are found to mainly influence competence. Particularly, when healthcare professionals focus on improving patients as self-managers (Prigge et al., 2015). Therefore, respectful information exchange can be improved by the health professional's interpersonal and communication skills which may lead to better interactions in the healthcare services and acquisition of social support (McCormack et al., 2017). A health professional's role could be to moderate behavioural supports like support groups or patients can participate in counselling, this also works for rebellious agency.

Rebellious Agency

The model specifies that the core-power is responsible for agency actions against structural barriers in social practice and serves to exert more control over health-related situations (Nutbeam, 2000). However, the findings indicate that deterministic structures significantly influence independent patients to be rebellious agents, though they are capable of being autonomous (Rütten and Gelius, 2011). Patient autonomous agency relies on recognition of patient active role in health management and on legitimacy of agency to be involved healthcare system decisions and policy. Nonetheless, the mechanisms of the HCS and sociocultural belief systems were found to affect recognition and legitimacy of independent patients and their agency in health management (Carman, Dardes and Maurer et al., 2013). For example, unlike the other culturally conditioned patients, rebellious patients' independence and autonomy are challenged by social expectancies and normalisation (Cockburn and Pit, 1997). Also, the HCS and professionals tend to overlook patient role in the management of their health instead of supporting their independence (Holman and Lorig, 2004).

The autonomy power dimension values independence in healthcare and for that it acknowledges the role of patient agency as critical to their health and to transform social practice. Therefore, modifying the relationship between structure and agency can facilitate improvement of autonomy and its recognition and legitimacy. This equal relationship improves health literacy and psychological empowerment by offering space for patients to practise decision participation and independence in a replacement to healthcare authority (Prigge et al., 2015). Patients expect to receive necessary information support and the space to exercise their empowerment. The complexity of information and how much information flows in the encounter characterise the needs of patients in this phase of autonomy (Carman et al., 2013). Furthermore, Prigge et al. (2015) also maintain that attention to improve competence can also impacts the autonomy dimension of psychological empowerment. Thus, the approach of changing the conditions in the HCS in support of competence, also benefits the autonomy dimension of psychological empowerment. Although the focus in interactive and autonomous behavioural phases is the dimensions of psychological empowerment; however, health literacy interventions should also be provided. Adequate health literacy is essential for competency and autonomy, thus, the interventions that are specified to strengthen psychological empowerment also intertwine with interventions to improve health literacy (Coulter, 2014).

Currently, the HCS mostly relies on medical expertise to solve the problem of chronic disease; thus, behavioural interventions are insubstantial and implemented randomly. The tensions arising from not employing behavioural interventions as equal as medical interventions are reinforced by the modality of healthcare services and the management of chronic disease resources (Schulman-Green et al., 2012). The influence of the policy on the management of patients also extends to influence healthcare access and healthcare professionals. Thus, the conditions in the healthcare system can benefit from modifying the management of resources; for example, modifying the roles of strained healthcare professionals and problematic healthcare access. In addition, modification of HCS resources is important for the behavioural component to succeed, healthcare professionals and patient roles must be modified to accommodate the new management of chronic disease. If healthcare system and its professionals, and management policies provide the support needed for patients to manage their health, patient autonomous agency can be achieved (Suter and Hennessey, 2013). Decision-makers can make use of the recommended approaches that favour a collaborative management of chronic disease patients to develop their capabilities.

6.4.3 Healthcare Services Conditions

6.4.3.1 Approaches for Healthcare Professionals and Patients

The current doctor-patient relationship and encounter is a typical example of the reciprocity arrangements discussed by a pioneer medical sociologist in his ‘Sick Role' theory (Parsons, 1951). Parson (1951) explains that patients have societal expectations involving rights and obligations of people occupying the sick role. Patients are expected to helplessly depend on the doctors to manage their recovery, and in reciprocity, patients are socially obligated to accept their helpless role and doctors' authoritative management to become healthy. Nonetheless, Parson's sick role is inapplicable in chronic disease because the helpless role is only sanctioned for acute health problems (Newman, Steed and Mulligan, 2004). Therefore, helplessness and dependence are found irrelevant in the chronic disease context (Clarke et al., 2003).

A chronic disease patient is the primary health manager whose agency should be recognised and adequately supported by healthcare professionals (Tattersall, 2002). Dependency or passivity are not valid with CD and could be considered a form of social deviance, as Varul (2010) describes chronic disease patient helpless role as pathological and should not be seen as sanctioned. The daily demands and long-term nature of chronic diseases make health professionals ability to manage these daily demands impossible (Parsons, 1975). Hence, the current roles of health professionals should be modified to recognise patients challenges and needs in health management and to intervene accordingly to improve patient capabilities.

When patients come into the new context of chronic disease, they bring their individual characteristics and life circumstances to the trusted healthcare system (Jacobs et al., 2001). Thus, the HCS is recommended to rearrange its resources to equally accommodate behavioural management besides medical management of chronic disease. Deteriorations in health are effectively managed by healthcare professionals clinically, but also there is an equally absent behavioural management to help patients prevent complications and sustain health. Therefore, the behavioural approach aims to improve health management in chronic disease by developing and expanding health literacy, competence and autonomy capabilities, while the new roles of health professionals aim to translate the principles of the behavioural approach and deliver planned behavioural interventions to patients (Holman and Lorig, 2004).

The behavioural component recognises that the quality of patient support is highly influenced by the doctor-patient relationship and the nature of their encounter (Jørgensen et al., 2017). Limited encounters and lack of continuity of care not only influence patient capabilities, but also the health professional capacity to manage these. Also, continuity of care in the management of patient capabilities is considered important for assessments of needs; therefore, patient encounters with their health professional have to be regular and offer them opportunities to develop and expand their health literacy and psychological empowerment (Hedelund Lausen et al., 2018). The current tensions between patients and healthcare professionals are deeply embedded in the social conduct within the healthcare context. Therefore, the strained social sequences between patients and health professionals can benefit from modifications in chronic disease management policies and from the changed modality of care.

The transformed modality of care requires new roles for healthcare professionals and training to improve their skills in behavioural management. This explains how the modified policies on chronic disease management are going to transform the social practice in the healthcare context from problematic to supportive of patient agency. The following specifies few important principles on the roles and the needed skills of healthcare professionals to manage health literacy and empowerment successfully, with a particular focus on the social practices in the doctor-patient encounters and recommendations for the new healthcare professional's roles.

Part of the difficulties faced by patients in health management is that they are confronted with powers that limit their opportunity to develop their capabilities. Chronic disease patients face tensions and obstacles within the HCS itself. Sometimes health professionals overestimate the role of agency or do not consider patients socio-structural barriers to health management (Kelly and Haidet, 2007), which demonstrates one of the problems of patients experiences in the HCS. However, it is mostly the case for the role of agency in chronic disease management to be underestimated in the Kuwaiti HCS. Therefore, patients can face significant impediments to engage in their health because of the HCS mechanisms that promote helplessness and dependence, and limit opportunities for behavioural developments in health literacy and psychological empowerment (Rowlands, Protheroe and Winkley et al., 2015).

Regardless of patient capital, patients are subjected to strained experiences without much help or support from the traditional HCS (Clark and Gong, 2000), which can lead to gaps in the quality of behaviour management and patients satisfaction of care (Lawn et al., 2009). Patients' abilities and freedom to make informed health decisions may be limited, especially when the healthcare professional exercises authority over patients or is unaware of their capabilities and needs. Thus, patient capabilities are affected because they are not provided the opportunity to develop or expand. Hedelund Lausen et al. (2018) recognised the strains on health professionals limit their ability to identify low health literacy and mentioned an approach to improve the problem of identifying low health literacy. The approach used the theoretical description of 'universal precautions' to compensate for limited encounters which recommends health professionals to assume that all patients have low literacy; and thus, to modify their communication accordingly

(DeWalt, Broucksou and Hawk et al., 2011). Though, the recommended strategies here aim to improve healthcare professionals' assessments and interventions of patients in a balanced relationship. Therefore, patients can benefit from a healthcare professional who is able to recognise their needs and challenges of health literacy and psychological empowerment and act accordingly.

The unbalanced power in the doctor-patient relationship is often shifted towards professionals, which worked well for the nature of acute diseases (Fochsen, Deshpande and Thorson, 2006; Peck and Connor, 2011; Skirbekk, Middelthon and Hjortdahl et al., 2011), but there is currently a deficit in the way that health professionals around the world manage the CD population (Coleman and Newton, 2005). In addition, the constraints of the modality of care in the Kuwaiti HCS conflict with health professional ability to assume a supportive role in promoting patient agency. The contradiction between HCS professionals' orders for patients to relinquish health management responsibilities and the uninviting healthcare service experiences affects not only patient behaviour, but also conditions in the healthcare system. There is a quality gap when poorly organised health delivery models cause patients to face constraints in the conditions of the HCS, as in: unjustified distribution of resources, and untrained staff to support patient capabilities (Institute of Medicine, 2001). Therefore, the recommended change in the modality of care is supported to help mitigate the constraints of the traditional HCS delivery model and to create new roles for patients and health professionals (Holman and Lorig, 2004).

It is becoming far more common to recommend healthcare professionals to foster attitudes that promote health management behaviours in patients (Cho et al., 2008; HHS, 2009; Gustavsson and Andersson, 2017). However, health professionals are not usually equipped to provide the best opportunities to help patients manage their conditions. In addition, the current doctor-patient encounter is brief and directed by doctors' authority towards medical interventions (Shaw et al., 2009a). On the contrary, chronic disease patients require time to exchange information about health management from a competent health professional. Paasche-Orlow and Wolf (2007) pointed to plausible causal pathways between health professionals' factors and improved health literacy. The authors continued to specify the factors as collaborative relationships, availability and continuity of care, and competence in skills. Also, the attitude and behaviour of health professionals have an influence on patient capacity to exercise agency (Lawn and Schoo, 2010).

Therefore, healthcare professionals are recommended to address perceived power differences and build a collaborative relationship with their patients, and to increase respect for the expertise that both patients and health professionals bring to the healthcare encounter (Sav et al., 2015). The healthcare system is encouraged to train health professionals to improve their skills for the new relationship and aim to build their competence in the behavioural management of chronic disease. Decision-makers are encouraged to make use of these findings to operationalise new roles for health professionals.

The new management of chronic disease and roles of health professionals require purposeful facilities to accommodate interactive clinics, group workshops and programs. Therefore, feasible transformation of available facilities and resources into purposeful resources can serve the new management of chronic disease and reflect benefit not only on the costs of care but also on the quality of care (Hussey et al., 2009). Because the mismatch between resources distribution and agency development needs is augmenting the problem; for example, the short encounter times and the complexity of needed information are straining professionals and preventing developments in capabilities. Thus, Hedelund Lausen et al. (2018) recommended a crucial implication to re-organise the health system and the role of healthcare professional to improve accessibility to purposeful resources. The provision of purposeful facilities and resources to accommodates the new modality of care help to reduce the strain on the healthcare system and professionals. Thus, issues that caused constrained conditions can be replaced with better assignment cycles and continuity of care, lengthy encounters, and less waiting and referral/appointment times to better address and identify patients with inadequate capital. In addition, hospitals who have redesigned their facilities and reorganised patient logistics around patients needs, have reported successful transformations in patient flow, efficiency and quality of care (Villa, Barbieri and Lega, 2009).

It is “vital for effective and sustainable development” to coordinate and mobilise resources across health, education, infrastructure development, environmental and others to ensure that the healthcare services conditions are supportive of patients agency (Rowlands, Dodson and Leung et al., 2017, p. 367). There is a need to transform healthcare services and to make significant changes that include coordinated and integrated care, training of health professionals in health literacy, patient empowerment and engagement, and social determinants of health (Frosch and Elwyn, 2014). Rowlands et al. (2017) recommended an organizational level framework to redesign facilities and reorient delivery models to improve behavioural management of chronic disease patients in healthcare systems. The Integrated People-Centred Health framework is published by the world health organisation (2015b) and can be a useful guidance to support healthcare systems in the distribution of purposeful resources. The healthcare system conditions, and health professionals can significantly influence health literacy and psychological empowerment developments and expansions through patient-centred support and tailored information that are adequate for the specific pattern of agency (Frosch and Elwyn, 2014). Therefore, the success of modifying the policies on changing the modality of care to one consonant with chronic disease not only depends on new healthcare professional roles, but also on infrastructural changes to resources distribution and logistics on patients flow within the system of healthcare.

6.4.3.2 Approaches for Healthcare Inequality and Disparity

The global agenda focuses on encouraging patients to participate in health management, and although patients are constantly reminded to be active, their actual needs are not met. For instance, patients have expressed that they need continuity of care and ready access to it, and infrastructure improvements (e.g. encounter times, waiting times and prompt care) (Holman and Lorig, 2004). The healthcare delivery model influences the interactions with healthcare professionals and results in restrictive mechanisms, such as: limited encounters, lack of communication and provision of information. These were reasons described by patients that explain why they avoid access to HCS resources and their preference to manage their health outside the HCS. Therefore, patients are susceptible to experience health inequality and disparity in health management which influences developments and expansions of their capabilities.

The management in the Kuwaiti HCS seems to favour a controlled care of chronic disease patients through the current modality and the socially elaborated healthcare professionals' role. Which are main mechanisms that have shaped passive and dependent behaviours and encouraged frequent access to healthcare services. Simultaneously, frequent access by dependent patients added to the load of chronic disease patients on HCS facilities and was found to influence the conditions in the HCS. Additionally, these constrained conditions in the HCS do not facilitate delivery of behavioural management and make access to healthcare services problematic. Therefore, the current modality has shown failure in utilising the HCS resources to prevent inequality and disparity in the management of patient behaviour.

Health inequality and disparity in the HCS were observed in the experiences of chronic disease patients. Although the HCS resources are equally distributed, yet, they are irrelevant to the nature of chronic disease. Neither assessments nor interventions in behaviour management were experienced by patients, because behavioural management was found to be insubstantial compared to the medical management of chronic disease. Except, this kind of management is not applicable to the nature of chronic disease (Nishtar, 2006). Therefore, patients experience health inequality in the form of failure to extract benefit from a sophisticated network of healthcare services and professionals, because patient agency is not considered in the current practice of the HCS and the behavioural component is, therefore, unnecessary (Lawn et al., 2009).

The current modality of CD management and the continuous rise in patient-load strains healthcare resources to provide prompt services. In addition to slow and strained healthcare resources, patients stated that they had avoided healthcare service for the following reasons: limited doctor-patient encounters, fragmented care, long waiting times, referrals and appointments time. These situational mechanisms of patient logistics and flow were found to be influencing the reasons and the way patients choose to access healthcare (Hedström, and Ylikoski, 2010), as patients refrain from seeking healthcare services until their health problems are unbearable. Thereby putting their health at risk and warranting frequent admissions, budget and staffing burdens on HCS. This further explicates the size and importance of the influences of the modality of care on the constrained conditions and on health literacy and psychological empowerment.

According to Schulz and Nakamoto's (2013), low empowerment influences patients to assume a dependent behaviour, and they are expected to frequently seek health services despite existing health literacy. However, the constrained conditions and mechanisms of the HCS were explanatory of dependent behaviour and have morphed the expected behaviours in the other groups. The lack of behavioural management influenced dependent patients to frequently access healthcare services; thereby, increasing patient-load and strain on healthcare professionals in the HCS (Williams, 2013). Whereas, independent and passive patients have limited their access to healthcare services because of unsupportive and limited experiences in the HCS. They have limited their access to the HCS to medications refill because they find access and conditions in the healthcare services disadvantageous to their agency capabilities. Therefore, the constrained conditions and mechanisms of the HCS were causative of inequality in the lack of behavioural management and disparity in the problematic HCS.

The processes related to the constrained conditions in the healthcare system exposed patients to health inequality and disparity which have influences on patient capabilities. The deficit of the healthcare services model to deliver behavioural management that meets the demands of chronic disease adds to the constrained conditions and access problems in healthcare systems (Williams, 2013). Thus, agency behavioural outcomes in the healthcare system are adding to the constrained conditions in the HCS, and these agency behavioural outcomes were initially shaped by the same constrained conditions. Specifically, the constrained conditions affected development and expansion of capabilities in inadequate capital patients which manifested passive and dependent behaviours. Whereas, patients with adequate capital manifested independent but rebellious health management, because their competence and autonomy were undermined by these constrained conditions. Of course, these processes entail further effects on patient capabilities, for example, through health disparities (Kilbourne et al., 2006; Eastern Mediterranean, 2014).

Chronic disease patients may also experience disparity due to administrative regulations concerning healthcare access to services, especially among the expatriate population. The following exemplify the control of structure over agency which, in a way, can determine agency behaviour and disparity. The example of saho008 case explains the influence of these structures on behaviour and health access. Due to employment issues the patient lost his healthcare access and services usage; thus, the participant's behaviour has changed to unhealthy which was detrimental to his health. To illustrate on a larger scale, expatriate participants make around 50% of the sample and make more than 65% of Kuwait's population; hence, whenever expats face employment or residency issues, healthcare access becomes problematic and patient behaviour as well.

Consequently, the structural deficiencies in healthcare services seem to reproduce the problem and widen the gap between the conditions in the HCS and patient behavioural management needs. This widening gap makes it more difficult for healthcare systems to manage chronic disease in terms of providing matching resources and facilities to accommodate systematic behaviour management. There is a clear need for infrastructural improvements to reduce waiting times but increase encounter times, for example, and a need to find more ways to cope with symptoms and disease consequences through a systematic behavioural approach (Holman and Lorig, 2004). From another aspect, complex administrative regulations concerning healthcare access or common macro level barriers may also place patients in a health disparity in hospital access. An example on an aggregate level, expatriates can benefit from strategies that facilitate healthcare access, or patients with socioeconomic or sociocultural barriers can benefit from interventions that provide services to improve physical healthcare access.

Therefore, easily accessible healthcare is imperative mainly because an available supportive environment and purposeful resources are appropriate HCS's conditions for the demands of chronic disease. It is recommended to re-engineer processes and administrative regulations to facilitate access to healthcare or organise community interventions to target access to care barriers for patients with unsupported social circumstances, since it is a common cultural issue among women, especially older women (Jerant, Friederichs-Fitzwater and Moore, 2005). Accordingly, these strategies have implications for practice in regard to the modality of care which prompts the healthcare system for modification of policies. These transformative strategies bridge the gaps in patient behaviour management and the conditions in the healthcare services; thus, create a supportive healthcare environment of health literacy and psychological empowerment.

6.5 Chapter Summary

This chapter presented a discussion and an integration of the results of the study to produce knowledge claims on chronic disease patient behaviour. Critical realism offered principles to address the ongoing problem of patient behaviour and to identify causal relationships concerning the origins of health behaviour. The theoretical context of the study helped develop an explanatory model that produced an ontological account on health literacy and psychological empowerment influences on behaviour and a renewed outlook towards health literacy and psychological empowerment, and patient behaviour.

The intersection of power dimensions with social levels in the modelling of the mechanisms specified that outcomes in the world of chronic disease are influenced by downward and upward social processes in the meso-level or socio-health context (Craver, 2006). The downward and upward social sequences between structure and agency were explored for their employed interactive mechanisms in social conflicts to advance interest and achieve goals (Bourdieu, 1989). The model also recognises the continuous transformation of power and morphogenetic sequences that extend beyond the interactive and outcome dimensions and adds the core-powers dimension. The explanatory model of causation explains conflicts in social practices and points to principal mechanisms in the chronic disease world, therefore, identify efficacious strategies for change (Archer, 1995). The tenets of model have advantaged the analysis of social practices to synthesise methodological and structured causal explanations on behaviour.

Although social capital influenced capabilities development and expansion and was able to explain patient choices and behaviour, the findings also show that patient capital significantly adds to capabilities development as a central influencing mechanism. ‘Patient capital’ is the collection of health literacy and psychological empowerment capabilities, and the social capital in a patient’s life circumstances which influence the manifestations of patient agency. Therefore, assessment of patient capital can explain why agency manifestations were different among chronic disease patients, thus, it overcomes causality limitations of health literacy and psychological empowerment measurements in patient behaviour.

The influences of interactions between social conditions with health literacy and psychological empowerment on patient capital explicate three patterns of behaviours in regard to health management: independent, dependent on social resources or the HCS, and risky health management. However, the explanatory model was useful in pointing to another set of mechanisms that further influenced health literacy and psychological empowerment developments and expansions. The current policies in the HCS and the culturally conditioned patients were found to reinforce the HCS's paternalistic role in the management of chronic disease which undermines patient agency. Also, the health care systems modality of care is found to create gaps in the management of chronic disease resources, and gaps in the management of patient capital development.

The interactive mechanisms of the modality of care employed by the HCS were found to disregard agency capital in the social event level. and that did not only influence behavioural outcomes in the meso-level, but also at the structure and agency levels. The modality of care is a principal mechanism shaping social elaborations in the world of chronic disease. Therefore, the outcomes of the gaps in management of patient behaviour are in a recursive loop with the gaps in the HCS management of chronic disease resources. Which explains the constrained conditions in the HCS and patients suboptimal behaviours.

Patients' outcomes at the agency level inform on capabilities development, particularly in health literacy and psychological empowerment, which were found to be minimal in general. The gaps in the behavioural management influenced patients with inadequate capital to assume latent or dormant agency, while patients with adequate capital were specifically influenced by a lack of recognition and legitimacy to assume a rebellious agency. The three identified patterns of agencies are the results of different patient capitals that interact with the stable and recurrent power of the modality of care. The patterns of agency demonstrate the centrality of active agency affected by health literacy and manifested by psychological empowerment, through competency and autonomy, as a key capability to manoeuvre health and social constraints. However, the identified patterns of agency indicate that patients have not transitioned effectively through the behavioural phases as: novice, interactive and autonomous agency. Therefore, changes to the conditions in healthcare system and to the modality of care are a priority to permit a management that is considerate to health literacy and psychological empowerment to promote effective transitions of patients through the behavioural phases (Abel and Frohlich, 2012).

The assessment of patient capital provides knowledge on behavioural transformations from novice, to interactive, and autonomous. The three phases continuum reflects the model's agency power dimensions which clarify the defining characteristics of each phase; thus, explains how patient behaviour transitions should be in the journey with chronic disease. Thus, the model's power dimensions pointed to the impotence of identifying the different challenges and needs of patient capital in the sample. Thereby, the model provided better links between patient capital and the behavioural phases, and specified structured approaches to patient assessments and interventions, healthcare professional roles, and healthcare access and conditions. Therefore, multilevel interventions were taken into consideration in the transformative strategies to generate successful outcomes for health literacy, and competency and autonomy of psychological empowerment. Hence, the recommended multilevel interventions followed principles in the development of different agency approaches that are specific to their needs. In addition, the recommended situational interventions tackled the healthcare system challenges that prevented effective agency transformations to restore the normative practice.

This chapter presented a discussion of the findings and concluded with how the findings of this research can bring about changes in the healthcare context of chronic disease management. The transformative strategies offered feasible modifications to improve the healthcare system to take account of health literacy and psychological empowerment and to better support patient agency. These strategies tackled causative factors and promise effective change and improved outcomes. Thus, the section on transformation strategies for chronic disease provided implications for the healthcare system on the management of chronic disease and recommended approaches and solutions to the problems of resources and behavioural managements.

CHAPTER 7: Conclusions and Recommendations

7.1 Introduction

This research investigated how and why health literacy and psychological empowerment mechanisms influence patient behaviour using mixed methods of questionnaires and interviews. Critical realism being the core philosophy of the study; therefore, the literature review discussed the notion of causal explanations philosophically and borrowed multiple theoretical perspectives to situate the exploration and explanations as close as possible to the ontology of health behaviour. Therefore, this study signified a theory of causation to explore the mechanisms of health literacy and psychological empowerment to increase knowledge on the problem of chronic disease patient behaviour (Danermark, 2002). The strong theoretical perspective on the problem of health behaviour in chronic disease helped interpret the collected data and demonstrated ways to relate the findings to the broader understanding of the social practice in the world of chronic disease. Therefore, social theory was employed, and the morphogenetic sequences were integrated to explain power transformations in agency and structure interactions that shape social practices and behaviour.

The theoretical context of the study specified the quality of the relationship between health literacy and psychological empowerment and their importance in influencing chronic disease patient behaviour using the Health Empowerment Model. According to HEM, the influence of the four categories of health literacy and psychological empowerment have different mechanisms that shape four patterns of behaviour. However, HEM has not focused on the influences of social and health structures in health literacy and psychological empowerment development and manifestations. Thus, Sen's Capability Approach was useful in theorising the influences of individual characteristics and social circumstances on health literacy and psychological empowerment. In addition, Sen's also linked such capabilities to patient health choices and agency power to achieve autonomy and well-being, which helped to analyse the different mechanisms involved in agency power transformation. Therefore, Sen's approach linked patient capabilities to health choices and helped explain agency power and how it is influenced and transformed by distribution of resources that match health literacy and psychological empowerment capabilities and needs. This explanation of agency power helped interpret the findings and supported identification of 'patient capital' in chronic disease management.

Patient capital was drawn from Bourdieu's definition of Symbolic Capital which is used in conflicts to advance interests and the influence of its power is subjected to sociocultural recognition and legitimacy. Patient capital was useful to explain the dynamics of agency power in social events that involve interactions and conflicts with macro-mechanisms of the cultural system and HCS structures. Patient capital as a power, advances agency capabilities in these interactions to achieve goals against the restraining social patterns and conditions in the HCS. The following discusses the limitations and strengths of the research.

7.2 Limitations and Strengths

This is a PhD research study and there are several constraints in a student research which can influence the limitations and strengths of the research. Therefore, it is important to take into account the limitations and strengths of this study, which may also help to strengthen future studies of the same research interests.

Being introduced to the qualitative method may have imposed some limitations in data collection as it was a new context; nonetheless, advancing with the collection procedure improved my skills in data collection and as an interviewer. Although the qualitative skills of the researcher may have initially influenced the quality of data collection of this research; however, being guided by theory helped reach data saturation quickly. Also, throughout data collection and analysis the parameters were strictly followed, and the analysis was supervised, which fulfils the criteria set out in the study methods to ensure validity and credibility of the data collected.

Self-rated measures, such as Chew's measure of health literacy may pose a limitation in measurement, especially when compared to direct measures of health literacy skills. TOFHLA is a direct measure of health literacy skills and would have reflected objective measures of health literacy, nevertheless, it was not feasible to modify and adopt the instrument to the Kuwaiti healthcare context. Also, Chew's HLSQ measure showed a high validity in detecting levels of health literacy and high reliability when compared with TOFHLA (Chew et al., 2008; Frisch, Camerini, Diviani and Shulz, 2011). Although self-rated measures impose limitation to validity particularly in descriptive or predictive studies; however, this study is explorative and interested in patients views of self, as in the measure used for psychological empowerment.

The theoretical perspective of critical realism is an element that helped strengthen the empirical data of the study. Critical realism helped to overcome limitations of causal associations in patient behaviour and produced ontological claims about mechanisms causative of the phenomenon under study. The application of social theory and exploration of embedded social practices and power dynamics responsible for behaviour merits this study. It allowed the development of the explanatory model of generative causation, which proved useful for its theoretical contribution to analysis and explanation of behaviour and conflicts in social practices in the healthcare context.

Although data became repetitive in the qualitative sample, nonetheless, patient categories with low empowerment were found to have the least number of participants, which implicates the influence of low empowerment on participation and involvement choices. Although the number of participants in groups of low psychological empowerment may not be comparable to other groups, the collected data were rich, and the findings were compared with other groups.

The healthcare delivery in the public sector is organised into six health regions. Therefore, the findings were collected from a sample representative of the population to be able to generalise the quantitative findings. Also, the researcher collected data from the population from different settings within the six health regions of Kuwait, which have contributed to the sample's variability. Thus, a range of perspectives was brought together, and varied patients experiences were explored in the research problem.

The following sections provide a summary of the findings of the study and then set out to present the implications of these findings with respective recommendations. Finally, the chapter ends with concluding remarks.

7.3 Summary of Findings and Contribution to the Literature

The theoretical context of this research advanced an analytical approach of social theory, an approach to explicate social mechanisms that generate and explain observed correlations between phenomena (Craver, 2006). The importance of explanatory mechanisms resides in their ability to specify the social influences that brought the relationship into existence, making systematic covariation of relationships explanations limited (Hedström, Swedberg and Hernes, 1998). The model differs significantly from other conceptual models in its principles of causality, intersections of social practice and power dynamics, and the identification of specific sequences at which health literacy or psychological empowerment are affected along the journey with chronic disease. This model guided modelling of the mechanisms that explain how health literacy and psychological empowerment interrelationships are linked to patient behaviour. The developed model of the study methodologically modelled the identified mechanisms to generate causative explanations of health behaviour. It employed the morphogenetic sequence by Archer (1995) to explain power transformations that resulted from multilevel mechanisms and conditions, with a focus on the influences on health literacy and psychological empowerment development, interactions and manifestations. This has permitted identification of continuous social interactions and power transformation in the social events 'meso-level' that translate into a timeline to discern behavioural phases based on needs and abilities for health management (Sen, 1992).

The model analytical ability to locate problematic social sequences at multilevel social practices provided a guide to identify root causes and principal mechanisms that influence behaviour. In the outcome dimension, patient behaviour interacts with the conditions of the HCS, and the production of that influences the development of agency capabilities. Possession of health literacy and psychological empowerment is essential in the interactions with the HCS modality of care. Primarily, development of health literacy skills in the outcome dimension improves patient competency of their capabilities in the interactive dimension. Also, recognition of patients' competent capabilities influences legitimacy of patient capital in health management and power transformation to autonomous in the core-power dimension. The core-power dimension reflects manifestations of agency that are employed as agency actions to interact with structural barriers to achieve goals. The following summarises the findings that were interpreted using the theoretical model of the study.

7.3.1 Findings in the Kuwaiti Healthcare System

The policies followed in the paternalistic management of chronic disease were found to determine patient behaviours and deny them the freedom of choice they desire to achieve emancipation. Archer's analytical dualism was useful in considering the chronological properties of power transformations to identify when the HCS and patient mechanisms were generated and how that influenced patient behaviour (Archer, 1995). Therefore, I was able to separate sequences of agency actions from structural influences to analyse the temporality in the identified mechanisms and their influences.

The social sequences in the Kuwaiti HCS revealed three patterns of agency: latent, dormant, and rebellious agency. The identified patterns of agency implicate a deficit in the healthcare service model that impedes development of chronic disease patient capabilities and impedes agency development and transitions in the behavioural phases. Because the outcome of these continuous interactions and power transformations in the HCS is negatively influencing patient behaviour and worsening the conditions in the HCS. Which points to the recursive loop between healthcare service delivery and patient behaviour, and the significant influences of the HCS modality of care on the development of chronic disease patient behaviour. Therefore, social capital became a significant influencer in the developments of health literacy and psychological empowerment capabilities in the social world of patients. Social capital was also able to explain the expansion and manifestation of health literacy and psychological empowerment inside the HCS context, due to the HCS inattentive management of patient capabilities.

Although health literacy and psychological empowerment have influencing mechanisms on patient health behaviour, for example, low health literacy and psychological empowerment can influences the nature of the encounter with health professionals (Katz, Jacobson and Veledar et al., 2007; Shaw et al, 2009a). However, it was found that health literacy and psychological empowerment are initially influenced and expanded in patient social context, instead of the HCS in the socio-health context. Developments of health literacy and psychological empowerment in the sample were found to be influenced by micro-level mechanisms (e.g. age and level of education) and macro-level mechanisms (e.g. life events and social network) in the social world of patients. However, their expansion was also dependent on patient social circumstances and opportunities instead of being dependent on the healthcare experiences.

Time and life events ‘health experiences' add to patient capital and help chronic disease patients develop competence to interact with health demands (Schulman-Green et al., 2012). It was found that patients with better social conditions and characteristics tend to have adequate levels of health literacy and/or psychological empowerment and engage better with their health, as in rebellious agency. Sometimes, a supportive social capital can help patient agency despite the inadequacy of patient capabilities, as in dormant agency, while those who had adequate capability/s but were socially underprivileged could not express their agency but displayed dormant agency as well. Additionally, those who had inadequate patient capital (low health literacy and psychological empowerment, and low social capital) were not able to develop their agency and had poor health prognoses, as in latent agency. Therefore, patient capital provides better explanations to answer why there are different patterns of agency and how patient agency can be developed to demonstrate better health management, considering the limiting powers of the HCS modality of care.

Most importantly, the modality of care followed by the HCS is found to be responsible for creating conditions that amplify the influence of mechanisms in the social world on patient health. Disease trends and patient health outcomes do not seem to benefit from the current model of chronic disease management and the distributed resources **(**Shah, Behbehani and Shah, 2010**)**. Therefore, healthcare systems appeal to strategies that make health resources more available to meet the increasing demands, for example, implementing a single intervention program or infrastructural expansions of facilities (Anderson and Knickman 2001). Thus, the inadequate management of chronic disease to its demands continues to drain the health care system budget.

The study findings have identified that a patient's health behaviour is greatly influenced by the policies regarding the management methods of chronic diseases and revising policies can go a long way in reducing chronic disease burden. A considerate management of resources and patient agency can help expand capabilities, and most importantly, deactivate negative mechanisms and conditions in a patient's social life circumstances. Therefore, eliminating factors interfering with expansion of health literacy and psychological empowerment of patients in their life journey of chronic disease management.

Plenty of mechanisms that influence behaviour were identified in this study; nonetheless, micro-mechanisms were found to succumb to the influence of macro-mechanisms and that was apparent in behaviour outcomes. For example, patient capital, as a micro-mechanism, was found succumb to the influences of the modality of care mechanisms and that may generally be the cause of the problem of health behaviour in chronic disease patients in Kuwait. The findings also indicate that the structural powers supported by sociocultural conditioning and legitimacy extend to stabilise the recurrent social patterns. Therefore, structural powers in the chronic disease world make capabilities development and agency attempts to change social practices insignificant. Thus, unless the collection of a patient's social capital is advantageous to health literacy and psychological empowerment expansion; otherwise, patient agency would struggle in the healthcare system.

The mechanisms and conditions concerning patient capital and the outcome of how they influence or are influenced by patient capital operate in a recursive loop that demonstrates how and why the healthcare system mostly influences health behaviours in chronic disease. The interactions occurring in the healthcare context in Kuwait are in a balanced state with its constituents: structure and agency. The status quo was explained by the duality of the healthcare system powers over the subordinate patient agency; therefore, normalising society's expectations of the helpless ‘sick role' in chronic disease management. Nonetheless, tensions exist within the balance, and a gap between these expectations and the emancipation sought by active chronic disease agents continues to widen by the recurrent powers of the HCS policies. Therefore, the produced social outcomes increased budget burdens on healthcare at the macro level, and affected capabilities development at the micro level. Social outcomes at the meso level are influencing patient healthy behaviours and continuously challenging HCS resources.

The Kuwait healthcare services model is found to overlook patient agency; thus, provided conditions for overlapping mechanisms in patients social capital to influence patient health prognoses and agency development. The dominant healthcare system structure and its management modality are a core influence on patient agency and health behaviour. Healthcare systems as dominant structures influence health behaviour production in the world of chronic disease, thus, the Kuwaiti HCS is recommended to capitalise on patient agency. Also, the need for supportive HCS conditions is a collective demand voiced by CD patients in the Kuwaiti HCS. Therefore, the multilevel transformative strategies are suggested as a feasible method to tackle the problem of health behaviour by matching healthcare system resources with patients demands for autonomous agency. The suggested policy changes promise to improve outcomes of chronic disease and its patients by reinstating agency power and restoring the power-balance in the healthcare context. The next section discusses the implications of the study's findings for both policy and research.

7.4 Implications and Recommendations

This study has found that modality of care is too dominant over the agency of chronic disease patient, resulting in less than optimal behaviours and constrained conditions in the HCS. The behavioural management of the three patterns of agency has to be provided by health professionals, instead of the HCS focus on medical management. Furthermore, it is those with inadequate patient capital who are at the highest risk for poor health prognoses and likely to manifest latent agency. As inadequate capital patients are in the most need of support of their capabilities and have the least access to support. The significance of the problem of health behaviour and the nature of the causative mechanisms require the attention of policymakers to implement new strategies to address the problems in behavioural management and resources distribution. Policy modifications play a major role in reinforcing changes to transform the lack of behavioural management and the constrained conditions in the HCS. Therefore, policymakers are encouraged to make use of the implication discussed here, and the principles and approaches in section (6.4 Chronic Disease Management Transformation Strategies).

Policy Implications and Modality of Care Recommendations

The results presented in this thesis show that patient behaviour is influenced by multilevel mechanisms that are interdependent and overlapping. Including a number of mechanisms in the healthcare context and in the patient social context. The results of this study implicate policymakers in healthcare to invest in chronic disease patient agency and recognise the pivotal role of patients in reducing the burden of chronic disease. Also, they are encouraged to benefit from the knowledge gained from this study and to employ the discussed transformations principles on the identified mechanisms that restrain health behaviour in chronic disease patients. Most importantly, the mechanisms of the modality of care that add to the strains on service delivery and create health inequality and disparity.

Changes to the modality of care and resources to accommodate activities of the behavioural management can benefit healthcare system conditions (WHO, 1986). In addition, modification of HCS resources is important for the behavioural component to succeed; therefore, healthcare professionals and patient roles are modified to accommodate the new management of chronic disease. Therefore, policies should be operationalised to reverse the burden of chronic disease by transforming the management of resources and the management of chronic disease patient agency.

It is challenging to implement behavioural management in the conditions created by the modality of care which explains the significant and continued influence of social capital in the expansion of health literacy and psychological empowerment. Therefore, a modified distribution of resources that follows the principles mentioned in section (6.4.3 Healthcare Services Conditions) is recommended to transform healthcare system conditions like healthcare access and health professional roles. Policy-level initiatives should address the barriers and fragmented healthcare services to enable change in the modality of care so patients can have the opportunity to practice their health management capabilities. Therefore, improvements to physical and infrastructure conditions, care coordination and patient logistics will help alleviate the strain on healthcare services and facilitate the adoption of behavioural management practices (McCormack et al., 2017). Also, the lack of behavioural interventions can also benefit from transforming the conditions and health professional roles. The management approach of chronic disease agency, or specifically, the three patterns of agency is recommended in section (6.4.1 The Behavioural Component in Chronic Disease Management). The section discusses principles on the assessments and interventions for the three patterns of agency to transform each agency into its respective behavioural phase: novice, interactive and autonomous agency.

The transformation strategies of chronic disease management emerged out of identification of principal mechanisms; thus, the modality of care and patient capital mechanisms are addressed to achieve health behaviour. The study's data were analysed using a multilevel model that have accounted for mechanisms at structure level which also considered the wider socioeconomic status and sociocultural influences. Also, accounted for the mechanisms of health literacy and psychological empowerment at the agency level which considered individual characteristics and social influences. The study findings provided an understanding of patients behavioural needs and their priorities, and included sociocultural and structural influences on health behaviour. Thus, provided knowledge of the conditions in the health system which was drawn from the literature on the Kuwaiti HCS and the experiences of participants. Therefore, the principles of the transformative strategies address the main mechanisms causing the three patterns of agency. These mechanisms were identified from a thorough assessment of contextual and individual influences on health behaviour. Thus, the transformative strategies are based on the theoretical bases of the model, and to target the mechanisms generative of the problem is at the core of critical realism. The principles of the transformative strategies offer multilevel interventions on the conditions in the HCS and behavioural management promise effective solutions to the problem of health behaviour.

Practically, decision-makers can make use of the recommended transformative strategies; thus, healthcare system conditions can benefit from a collaborative management that is considerate of chronic disease patient capabilities. Patients can also benefit from a collaborative management; however, changes to the modality of care are a priority to permit application of the recommended behavioural component approaches (Sen, 1992; Abel and Frohlich, 2012). Modification of HCS resources is important for the behavioural component to succeed; for example, problematic healthcare access healthcare professionals and patient roles must also be modified to accommodate the new management of chronic disease

The transformed HCS requires new roles for the healthcare professionals and training to improve their skills in behavioural management. Health literacy and psychological empowerment are capabilities that are becoming increasingly important to healthcare professionals (Ratzan, 2001; Sorenson et al., 2012). Hence, the current roles of health professionals should be modified to recognise patients challenges and needs in health management and to intervene accordingly to improve patient capabilities. For healthcare professionals, an understanding of the influences of patient health behaviours and the role of health literacy and psychological empowerment may further improve communication techniques by developing specific interventions and education materials. Also, the authoritative relationship which have shaped helplessness and encouraged frequent access to healthcare service should be replaced with a collaborative relationship that values patient autonomy. Therefore, the recommended change in the modality of care is supported to help mitigate the constraints of the traditional HCS services delivery and to create new roles for patients and healthcare professionals (Holman and Lorig, 2004). In addition, contribution of the HCS to agency should aim to improve patient behaviour through development of patient capabilities. However, it is suggested that the development of patient capabilities should seek to improve health management in general and not only context focused. Therefore, an integrated care of patient agency can achieve social change and sustain health developments and outcomes in both structure and agency (Kickbusch, 2001).

Research and Practice Implications

This study provides data on new population and context and an empirical account on the interrelation of health literacy and psychological empowerment. The findings of this study encourage future research to explore empirical evidence of health literacy and psychological empowerment interrelationship and causal relationships to behaviour and outcomes. The study's findings informed the transformative healthcare strategies that are tailored to meet patient needs and aim to improve patients ability to use and apply health information, and to promote patient participation in their healthcare. The findings can help synthesise future interventional studies to evaluate the impact of these approaches on health literacy and psychological empowerment, and the application of these strategies could evaluate the model of the study. In this vein, public health and behavioural researchers are encouraged to employ the results of this study to explore in-depth the role of patient capital in chronic disease health behaviour, as well as, in designing assessments and interventions that target influencers of health behaviour in chronic disease patient population.

The applicability of the multilevel explanatory model of causation in behavioural analysis and explanation suggests a way to substantively explain social practices and mechanisms in the chronic disease healthcare context. Allowing analysis of specific social sequences and power dynamics operating in the world of chronic disease to reveal the social events produced from interactions between structures and agency (Archer, 1995). The analytical approach of the model to explain behaviour promises intricate explanations of the generative mechanisms. Interestingly, the three behavioural phases that were found by the dimensions of power of the model hold similar descriptions to Nutbeam's (2000) three tier of health literacy which implicate practice for more pronounced measures of the interrelationship between health literacy and psychological empowerment.

The quantitative findings demonstrated empirical distinction and a significant interrelation between health literacy and psychological empowerment which supports the argument against Nutbeam's conflation of health literacy with empowerment. Nevertheless, the study's model suggests that Nutbeam's (2000) tier of health literacy corresponds to the findings on health literacy and psychological empowerment developments as agency power is transformed through the behavioural phases. That is, the outcome dimension of the model is mainly concerned with the development of the cognitive abilities to process and use health information to formulate decisions and function in everyday healthcare situations, which is linked to functional health literacy. While a transformation of agency outcomes into competent interactive power to apply these informed health decisions and to actively participate in health care activities is linked to the second tier, communicative health literacy. Finally, critical health literacy corresponds to agency power transformation into autonomous core-power to exert more control over health care events and situations.

Therefore, it is recommended to operationalise this link between the transformation of agency power and Nutbeam's tier of health literacy. This requires treating health literacy and psychological empowerment interrelationship more explicitly to advantage from integrating the empirical evidence of this study on health literacy and psychological empowerment separation across the three health literacy tiers. It is suggested that the development of a measure that accounts for the distinct but interrelated health literacy and psychological empowerment across Nutbeam's tiers of health literacy can benefit accurate and specific empirical analysis of patient capabilities. Thus, considering the role of unconflated empowerment promises new grounds to assess and explain chronic disease patient behaviour, and to create relevant interventions to enhance psychological empowerment to help patients manifest their health literacy.

7.5 Conclusion Remarks

The thesis began with an introduction of a descriptive scope of the study on chronic disease patient behaviours in Kuwait to highlight the magnitude of the problem and the significance of chronic disease burden. Knowledge of context of the study is important in the critical realist perspective; therefore, the healthcare context was presented along with background information about Kuwait. In addition, chronic disease and health behaviour from the Kuwaiti context and similar contexts were also presented.

The critical realist review in the second chapter provided grounds to develop the theoretical context on causality in health behaviour. The theory focused on the agency of patients as it interacts with structures in the healthcare context. Health literacy and psychological empowerment may occur at levels that best illuminate the gaps in how patients exercise agency and how structures enable or restrain patient behaviour. Also, the interactions that help people bring about these capabilities may be vital in understanding how patients make choices in health behaviour. Unfortunately, there was a noticeable gap in empirical data to pinpoint and understand how these two distinct capabilities interrelate and how they operate as generative mechanisms in health behaviour. Most importantly, there is a little contribution from the critical realism perspective on the topics of health literacy and psychological empowerment and health behaviour.

Chapter three presented the aims, objectives and significance of the present study in order to answer the research questions and address the gaps in the literature. The theoretical context of the study guided the development of the research methods and methodology, also, it specified the relationships between the research topics and helped create a model that provided a theoretical lens to analyse the collected data. The methodological underpinnings and research methods have been introduced to precisely help reproduce the researcher's pathway in the synthesis of knowledge claims regarding the research problem (Maxwell, 2012).

Chapters four and five presented the quantitative and qualitative results along with an analysis and comparison of the data, which set out to underline the main themes and conclusions of the study findings. The quantitative results were presented in order to illustrate the influence of chronic disease patient individual characteristics on their capabilities of health literacy and psychological empowerment in the healthcare system. Although doing more statistical analysis (i.e., using measures of self-management or behaviour) would have been informative; however, if the analysis had focused more on quantitative data, the study’s direction would have changed from an explorative research to a descriptive one. The following qualitative findings chapter explored the outcome of the interactions between the individual characteristics and the structural powers involved in the care of their chronic disease in Kuwait. The findings presented the different mechanisms that either facilitated or prevented healthy behaviours in chronic disease patients. The analysed findings from patients responses were organised into themes; to present the differences in the quantitative levels of health literacy and psychological empowerment groups, and to present the similarities in groups’ responses to the structural powers.

Finally, chapter six situated the findings within the existing literature and presented a discussion of the findings from the explanatory model. The ontological causative accounts on behaviour have provided a fresh outlook towards patient health behaviour. The chapter concluded with how the findings of this research can bring about changes in the healthcare context. The transformative strategies offered feasible modifications to improve the healthcare system to take account of health literacy and psychological empowerment and to better support patient agency. Thus, provided implications for the healthcare system to modify policies on the management of chronic disease to change the problems of resources and behavioural managements. The chapter summary provided a conclusive summary of the research findings from the explanatory model.

The study's model allowed a structured analysis of multilevel powers and outcomes that take place in the healthcare context and other social contexts through an original theory developed to explain causation in health behaviour (Edgley et al., 2014). Relevant sociohistorical accounts to behaviour and the data collected from the interviewed sample helped expose the activating conditions and identify downward and upward mechanisms causing the behavioural outcomes. As the theoretical knowledge about the relationships of related topics was established, therefore their influences on behaviour were recognised. Health literacy and psychological empowerment are outcomes of interactions in a patient's social world prior to being introduced to the world of chronic disease or the healthcare context. Therefore, as they further developed, patients employ health literacy and psychological empowerment in the world of chronic disease as agency mechanisms. Therefore, health literacy and psychological empowerment develop as agency outcomes, but can transform to be agency interactive capabilities or agency core power in the dimensions of power.

Change is a major element of the model and it seeks to identify problematic ontological relations and thus explain the outcomes of that relationship and points to efficient strategies for change. This model is driven by power-balance conflicts in achievements that can be applied to social processes to analyse behaviour. Therefore, help achieve better social function and better outcomes by specifying ontology of power and changing imbalances of power. Its application in the social process of conflict links the relationship between structure and agency to identify what characteristics define each actor's power in the struggle, which determines achievements of goals and better functionality and how structure and agency can be modified to promote health behaviour.

In conclusion, the thesis is on a very important topic and the findings are of importance and could be used by the healthcare system to improve patient care considerably. This research explored chronic disease management in the healthcare system of Kuwait, considering causal relationships in behaviour. Therefore, this study provided ontological claims about the origins of behaviour away from the limitations of covariance and associative causal claims and into the real generative causation. The conflicts in the social practice in the chronic disease world in Kuwait arise because the sequences operate in a downward fashion. The HCS paternalistic management is focused on medical interventions while agency behaviour is unrecognised in the process. Hence, the dominance of the healthcare system is stabilised in social practices and its influence is apparent on the outcomes in the three social levels: agency, structure, and social events. The issue is that these three-level outcomes are in a recursive loop with the HCS; thus, the worse the outcomes, the more the strains are on resources and conditions in healthcare services and the more the challenges are to implement behavioural management. Although it might be challenging to change embedded structures or sociocultural conditions, except, policy changes in the HCS can be sought to change the modality of chronic disease management. For example, changing the modality of care to one parallel to the principles of transformative strategies might improve the strained conditions in the HCS by developing patient capabilities. Thus, supporting patients as autonomous agents in health management and promoting healthy behaviours and outcomes. The study's transformative change strategies help produce sustained outcomes that are consonant with agency goals of autonomy and the structural system interests in decreasing chronic disease burden and improving population health indicators.

APPENDICES

APPENDIX A

Participant Demographic Form

Participant Demographic Form

Primary Clinic/Hospital Name: **Date:**

Last Name	**First Name**	**Middle Initial**
____________________	____________________	____________________

Date of Birth: ____ / ____ / ______ **Gender**: ☐ Male ☐ Female

Home Phone ____________________ **Mobile Phone** ____________________

Nationality

☐ Kuwaiti ☐ Non-Kuwaiti (Specify:______________________)

Marital Status

☐ Married ☐ Single ☐ Divorced

☐ Widowed ☐ Other (Specify:_______________)

Educational Level

☐ Elementary ☐ Middle School ☐ High School

☐ Some College ☐ University ☐ Other (Specify:____________)

Employment Status

☐ Employed Full-Time ☐ Employed Part-Time ☐ Not Employed

☐ Disabled ☐ Retired ☐ Self Employed

☐ Student ☐ Other (Specify:__________________)

Income Level/month

☐ Below 500 KD ☐ 500-1000 KD ☐ 1000-1500 KD

☐ 1500-2500 KD ☐ Above 2500 KD

This research study involves a short interview to discuss issues related to healthcare.

Would you kindly agree to participate in an interview? **YES / NO**

Your Efforts in The Success of this Study Are Highly Appreciated

Thank You

Researcher Name: Bader Alwadaany **Institution: University of Nottingham**

Participant Code: ______

APPENDIX B
Chew's HSLQ

All 16 Health Literacy Screening Questions

1. How often are appointment slips written in a way that is easy to read and understand?
   (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

2. How often are medical forms written in a way that is easy to read and understand?
   (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

3. How often are medication labels written in a way that is easy to read and understand?
   (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

4. How often are patient educational materials written in a way that is easy to read and understand?
   (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

5. How often are hospital or clinic signs difficult to understand?
   (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

6. How often are appointment slips difficult to understand?
   (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

7. How often are medical forms difficult to understand and fill out?
   (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

8. How often are directions on medication bottles difficult to understand?
   (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

9. How often do you have difficulty understand written information your health care provider (like a doctor, nurse, nurse practitioner) gives you?
   (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

10. How often do you have problems getting to your clinic appointments at the right time because of difficulty understanding written instructions?
    (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

11. How often do you have problems completing medical forms because of difficulty understanding the instructions?
    (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

12. How often do you have problems learning about your medical condition because of difficulty understanding written information?
    (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

13. How often are you unsure on how to take your medication(s) correctly because of problems understanding written instructions on the bottle label?
    (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

14. How confident are you filling out medical forms by yourself?
    (1) Extremely (2) Quite a bit (3) Somewhat (4) A little bit (5) Not at all

15. How confident do you feel you are able to follow the instructions on the label of a medication bottle?
    (1) Extremely (2) Quite a bit (3) Somewhat (4) A little bit (5) Not at all

16. How often do you have someone (like a family member, friend, hospital/clinic worker, or caregiver) help you read hospital materials?
    (1) Always (2) Often (3) Sometimes (4) Occasionally (5) Never

Chew, L. D., Griffin, J. M., Partin, M. R., Noorbaloochi, S., Grill, J. P., Snyder, A., Bradley, K. A., Nugent, S. M., Baines, A. D. and Vanryn, M. (2008). Validation of screening questions for limited health literacy in a large VA outpatient population. J Gen Intern Med, 23, 561-6.

APPENDIX C

Sample of TOFHLA

PASSAGE A

Your doctor has sent you to have a ___________ X-ray.

a. stomach
b. diabetes
c. stitches
d. germs

You must have an __________ stomach when you come for ______.

a. asthma
b. empty
c. incest
d. anemia

a. is.
b. am.
c. if.
d. it.

The X-ray will ________ from 1 to 3 _________ to do.

a. take
b. view
c. talk
d. look

a. beds
b. brains
c. hours
d. diets

THE DAY BEFORE THE X-RAY

For supper have only a _______ snack of fruit, ________ and jelly,

a. little
b. broth
c. attack
d. nausea

a. toes
b. throat
c. toast
d. thigh

with coffee or tea.

After ___________ , you must not ________ or drink

- a. minute,
- b. midnight,
- c. during,
- d. before,

- a. easy
- b. ate
- c. drank
- d. eat

anything at ________ until after you have ________ the X-ray.

- a. ill
- b. all
- c. each
- d. any

- a. are
- b. has
- c. had
- d. was

THE DAY OF THE X-RAY.

Do not eat ____________.

- a. appointment.
- b. walk-in.
- c. breakfast.
- d. clinic.

Do not ________ , even __________.

- a. drive,
- b. drink,
- c. dress,
- d. dose,

- a. heart.
- b. breath.
- c. water.
- d. cancer.

If you have any ___________ , call the X-ray ____________ at 616-4500.

- a. answers,
- b. exercises,
- c. tracts,
- d. questions,

- a. Department
- b. Sprain
- c. Pharmacy
- d. Toothache

APPENDIX D

Spreitzer's Empowerment Scale

Measures (7-Point Likert Scales)

Empowerment Items

Meaning
The work I do is meaningful.
The work I do is very important to me
My job activities are personally meaningful to me.

Competence
I am confident about my ability to do my job.
I am self-assured about my capability to perform my work.
I have mastered the skills necessary for my job.

Self-Determination
I have significant autonomy in determining how I do my job.
I can decide on my own how to go about doing my work.
I have considerable opportunity for independence and freedom in how I do my job.

Impact
My impact on what happens in my department is large.
I have a great deal of control over what happens in my department.
I have significant influence over what happens in my department.

Modified Spreitzer's Empowerment Scale [1]

Measures (7-Point Likert Scales) [2]

Empowerment Items

Meaning:

- Managing my disease is meaningful
- Managing my disease is very important to me
- My disease management activities are personally meaningful to me

Competence:

- I am confident about my ability to manage my disease
- I am self-assured about my capabilities to perform my management activities
- I have mastered the skills necessary to manage my disease

Self-determination:

- I have significant autonomy in determining how I manage my disease
- I can decide on my own choose how to proceed with the management of my disease
- I have considerable opportunity for independence and freedom in how I manage my disease

Impact:

- My impact on what happens in my health is large
- I have a great deal of control over what happens in my disease
- I have a significant influence over what happens in my health

---

[1] Spreitzer, G. M., (1995). Psychological Empowerment in the workplace: dimensions, measurement, and validation. Acad Manage J, 38, 1442–65.

[2] (strongly disagree, disagree, somewhat disagree, neither agree or disagree, somewhat agree, agree, strongly agree)

APPENDIX E

Interview Questions Guide

Interview Questions Guide

General Questions:

- Can you tell me about what has brought you into the clinic today? What is your current health like?
- What is happening with you in relation to your chronic illness?
- How do you manage your illness?
- What do you do to manage your illness? How effective are these strategies?
- Give me an example.
- How often do you access healthcare services?
- Do you have problems in accessing health services?
- If yes, how did you handle them?
- What situations make you decide to seek health services? For what reasons?
- What makes seeking health care important or not to you?

Specific Questions:

- Question refers to responses on quantitative instruments.
- I see you choose that, tell me more about that.
- What do you do about it?
- How do you go about it?
- Do you understand communicated information given to you by your provider?
- If yes, what strategies do you use to overcome the problem?
- What do you think are the reasons for not understanding?
- Do you find it difficult or easy to make decisions about your health?
- How do you think decision-making affects your health?
- What do you think about your control over your illness?
- Do you think you know enough about your condition?
- Where do you get information from about your condition?
- How do you think health knowledge would be best improved?
- Is there anything else you would like to add before we end the interview?

APPENDIX F

Patients Consent Form

University of Nottingham, School of Nursing,

Midwifery and Physiotherapy

Nursing Division

Title of Project:

An Exploration of the Mechanisms of Health Literacy and Psychological Empowerment Influencing Chronic Disease Patients' Health Behaviours in Kuwait

Name of Investigator: Bader Alwadaany

Healthy Volunteer's Consent Form

Please read this form and sign it once the above named or their designated representative, has explained fully the aims and procedures of the study to you

- I voluntarily agree to take part in this study.
- I confirm that I have been given a full explanation by the above named and that I have read and understand the information sheet given to me which is attached.
- I have been given the opportunity to ask questions and discuss the study with one of the above investigators or their deputies on all aspects of the study and have understood the advice and information given as a result.
- I agree to the above investigators contacting my general practitioner [and teaching or university authority if appropriate] to make known my participation in the study where relevant.
- I agree to comply with the reasonable instructions of the supervising investigator and will notify him immediately of any unexpected unusual symptoms or deterioration of health.
- I authorise the investigators to disclose the results of my participation in the study but not my name.
- I understand that information about me recorded during the study will be kept in a secure database. If data is transferred to others it will be made anonymous. Data will be kept for 7 years after the results of this study have been published.
- I understand that I can ask for further instructions or explanations at any time.
- I understand that I am free to withdraw from the study at any time, without having to give a reason for withdrawing.
- I confirm that I have disclosed relevant medical information before the study.

Name: ……………………………………………………………………………………

Address: ……………………………………………………………………………………..

Telephone number: ………………………………………………………………………….

Signature: …………………………………………. **Date:** ……………………………….

I confirm that I have fully explained the purpose of the study and what is involved to:

………………………………………………………………………………………………….

I have given the above named a copy of this form together with the information sheet.

Investigators Signature: ……………………….. **Date**: ………………………………

Investigator Name: ………………………..

Study Volunteer Number: ………………………………………………………………..

APPENDIX G

List of Modules

List of Modules

Year 2012/2013

Code	Module	Semester	Grades	Credits
M14153	Fundamentals of Quantitative Analysis	Autumn	66	10
M14150	Philosophy of Research - Social Science	Autumn	72	10
			Total credits:	20

APPENDIX H

Research and Personal Development

Research and Personal Development Training

No	Course Name	Date	Units Available	Units Achieved
1.	Induction to Library Services for the New Researcher	12 October 2012	0	0
2.	Nature of the doctorate and the supervision process	31 October 2012	1	1
3.	Essential information skills for new researchers in medicine and health sciences	02 November 2012	1	1
4.	Research Saturday Attendance	10 November 2012	2	2
5.	Confidence boosters: Confidently deal with feedback and criticism	21 November 2012	0	0
6.	Planning your research	31 January 2013	1	1
7.	Getting into the habit of writing	26 March 2013	1	1
8.	How to be an effective researcher for research students	17 April 2013	4	4
9.	Preparing for your 1st year viva-hints and tips	17 May 2013	0	0
10.	Creating Personal Impact – The behavioural skills	21 May 2013	1	1
			Total Units	11

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