EDUCATION THAT MAKES A DIFFERENCE TO PALLIATIVE AND END OF LIFE CARE AT THE BEDSIDE IN A RESOURCE-POOR CONTEXT: THE SITUATION OF CAMEROON

Nahyeni Bassah, MSc.

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ABSTRACT

Background

Current demographic trends giving rise to an ageing population worldwide, and changes in disease patterns, are increasing demands for palliative and end of life care. Nurses play a fundamental role in the care of patients with chronic and life-threatening illnesses, making it critical that nurses entering the profession should be competent and confident to provide palliative care. However, some preregistration nursing curricula, particularly those in resource-poor settings, do not include any palliative care content. Existing research identifies a lack of palliative care competencies among practising nurses, both newly graduated and student nurses.

Aim

The aim of this study was to develop, pilot and evaluate the impact of a palliative care course on Cameroonian preregistration nursing students' palliative care knowledge and self-perceived competence and confidence in palliative care provision, using Kirkpatrick's (1967) framework for training programme evaluation.

Design

This study is situated within the World Health Organisation's public health model for palliative care as an overarching theoretical framework. It employed a longitudinal quasi-experimental pretest/posttest design, using both quantitative and qualitative methods. It was conducted in 3 phases. In the first phase, a 30 hours classroom based palliative care course, underpinned by experiential learning theory, was developed. In the second phase, the course was delivered to second and third year nursing students in one University in Cameroon, by nurse educators, a chaplain and palliative care trained nurses in Cameroon. In the third phase, an evaluation of the impact of the course on students' palliative care knowledge, self-perceived competence and confidence in palliative care, and transfer of learning to practice was conducted. Course evaluation data was collected via a pretest/posttest survey, 3 focus groups and 10 individual critical incident interviews. Both descriptive and inferential statistics were used to analyse the quantitative data. The qualitative data was analysed thematically using the framework approach.

Findings

This study revealed a deficiency in the palliative care content of the pilot University's preregistration nurse training curriculum, and very poor palliative care knowledge and self-perceived competence and confidence in palliative care provision, among preregistration nursing students of this University. A 30 hour classroom based palliative care course, delivered by nurse educators, palliative care nurses and a chaplain in Cameroon was found to statistically significantly improve students' overall palliative care knowledge. In this study students' also had improvements in their self-perceived competence and confidence in palliative care provision, though this was not statistically significant. Student nurses in receipt of palliative care education were able to transfer their learning to practice. They reported recognizing patients with palliative care needs, providing patients

with physical, psychosocial and spiritual support and communicating patient information to the wider care team. Notwithstanding this positive finding, some factors, related to the student themselves, the qualified nurses, the practice setting or the patient and family, were found to negatively impact on the learning transfer process. The students generally felt that the course was an ‘eye opener’ and met with their expectations. They perceived the major strength of the course was the use of interactive and stimulating educational strategies, but felt that the absence of a supervised clinical practice component with dying patients was a major weakness of this course.

Conclusion

There is a need for a curriculum revision to include palliative care content in the preregistration nurse training curricula of the pilot University. This seems to reflect a general need by all preregistration nursing students in this country. This study’s findings reveal the need to advocate for palliative care education and practice policies, and for adequately preparing clinical placement sites for nursing students’ palliative care learning and transfer of learning in Cameroon, and possibly other resource poor settings.

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AIDS: Acquired Immune Deficiency Syndrome

APCA: African Palliative Care Association

BMC: Biomed Central

CIT: Critical Incident Technique

ELNEC: End of Life Nursing Education Consortium

EAP: European African Partnership

EAPC: European Association of Palliative Care

HIV: Human Immunodeficiency Virus

NACC: National AIDS Control Committee

NCCD: Non-Communicable Chronic Disease

SPCCPCP: Self-Perceived Competence and Confidence in Palliative care Provision

SSA: sub-Saharan Africa

PCQN: Palliative Care Quiz for Nurses

UNAIDS: United Nations Program of HIV and AIDS

WHO: World Health Organisation

WPCA: World-wide Palliative Care Alliance

CHAPTER 1: INTRODUCTION

1.1 Introduction

This thesis presents the development, piloting and evaluation of the impact of a palliative care course on Cameroonian preregistration nursing students' palliative care knowledge and self-perceived competence and confidence in palliative care provision, using Kirkpatrick's (1967) framework for training programme evaluation. The study focuses on the education of preregistration nursing students in palliative care as one of the strategies that can make a difference to palliative and end of life care at the bedside in a resource-poor context, like Cameroon.

In this chapter, I justify the need for preregistration palliative care education, discuss the significance of this study and explain my personal interest in the study area. The chapter closes with a brief description of the content of this thesis.

1.2 The need for preregistration palliative care education

Death is a universal experience for every human being. Current trends in demography giving rise to an ageing worldwide population and changes in disease patterns are increasing demands for palliative and end of life care, with increasing incidence of HIV/AIDS, cancer and other non-communicable chronic conditions (Cohen and Deliens, 2012; UNIADS, 201O). Ensuring a good quality of remaining life and death for those approaching the end of life requires competent health and social care professionals who can respond to varying palliative and end of life care needs.

Nurses play a fundamental role in the care of patients with chronic/life-threatening illnesses and end of life care is a part of every nurse’s’ every day practice (Gott et al., 2012; Payne et al., 2009), making it critical that nurses entering the profession should be competent and confident to provide palliative care. Yet, some preregistration nursing curricula do not include any palliative care content (Mwangi-Powell and Dix, 2011; Dobbins, 2011; Johnson, et al., 2009; Dickinson et al., 2008; Kumar, 2007; Lloyd-Williams and Field, 2002). Existing research identifies a lack of palliative care knowledge and skills among practising nurses, both newly graduated nurses and nursing students (Prem et al., 2012; Cavaye and Watts, 2012; Khader et al., 2010). While practising nurses report that they have not received adequate palliative care education (Paice et al., 2008; Shipman et al., 2008; Caton and Klemm, 2006), preregistration nursing students have been found to have negative attitudes towards death and care of the dying; and have been found to feel hesitant, anxious, unprepared and untrained to care for a dying person (Mutto et al., 2012; Leighton and Dubas, 2009; Birkholz et al., 2004, Mallory, 2003).

Although there is evidence that palliative care content is beginning to feature in preregistration nursing curricula in some resource-rich countries (Bassah et al., 2014; Cavaye and Watts, 2010; Dickinson et al., 2008), there is still a significant lack in curricula in resource-poor countries (Prem et al., 2012; Mwangi-

Powell and Dix, 2011; Karkada et al., 2011; Gwyther, 2007). By ‘resource-poor’ countries, I draw on the classification made by Wright (2003) (cited in Hunt, 2008:680), who combines the following indices of gross domestic product to identify resource-poor countries in relation to health: health expenditure, overall health system achievement, human development and morphine consumption. Therefore sub-Saharan African countries that have a limited potential to provide palliative care are considered resource-poor.

1.3 Significance of this study

Given the role that nurses play in the healthcare system in resource-poor countries, they will likely encounter someone with a chronic/life-threatening condition who requires palliative care (Payne et al., 2009). Inadequate education of preregistration nursing students in palliative care in these countries may mean that they graduate from the program unprepared for their future role as palliative care providers (Mwangi-Powell and Dix, 2011; Gwyther, 2007). Consequently, patients may not receive good quality palliative and end of life nursing care. There is therefore a need for every nurse to have access to adequate palliative care education.

The lack of palliative care education for preregistration nursing students in Cameroon justifies the need for this study. So, this study sought to understand whether a 30 hour classroom based palliative care course delivered by nurse educators and palliative care nurses in Cameroon has the potential of improving the palliative care knowledge and skills of preregistration nursing students and of enabling them to feel prepared to provide palliative care to patients and their families. The study will also contribute in the development of the evidence base on the effectiveness of preregistration palliative care education in a resource constrained country like Cameroon. This may yield insights useful for nursing education policy makers in Cameroon and other resource-poor settings. Consequently it may inform the integration of palliative care content into the preregistration nurse training programs of nursing schools in Cameroon. Thus may ensure improvement in and accessibility to palliative care nursing services in Cameroon in the long run. It is also hoped that this study will contribute to the body of scientific nursing knowledge thus ultimately contributing to improving care for those who are approaching the end of life in a resource-poor context.

1.4 My personal interest in the subject Area

I graduated from the University in 2006 with a Bachelor of Nursing Science degree and later in 2009, I obtained a Master in Nursing Education degree from the same University, in collaboration with the School of Nursing and Midwifery, University of East Anglia, United Kingdom. I was part of the first cohort from this programme that was introduced into Cameroon as one of the fruits of the British Council Grant "EAP 100: Infrastructure Building for Degree Level Nurse Education in Cameroon" and jointly implemented by: the School of Nursing and Midwifery, University of East Anglia, UK; the Department of

Nursing of the University of Buea, Cameroon; and the Higher Institute of Applied Medical Sciences, Buea, Cameroon.

Together with Dr. Gibson D'Cruz and Mrs. Kate Delve-Yates of the School of Nursing and Midwifery, University of East Anglia, we developed Cameroon's first standard nursing curriculum, which I have had the opportunity to implement and refine at the Higher Institute of Applied Medical Sciences Buea, in my capacity as Head of the Nursing Department and as a curriculum consultant. Other nurse training schools in the country are gradually embracing this new curriculum.

As an undergraduate nursing student, I struggled with the care of patients who were dying, and I often avoided the bedside of dying patients. Like most Cameroonians from a poor and underprivileged background, I have the personal experience of having lived with a sick grandmother and helping my mother as we struggled to alleviate her pain, assure her medical treatment, bathe and feed her, and cope with her several other needs which we did not have the professional and psychological preparation or material means of supplying; while at the same time working hard to supply the nutritional, educational and other needs of the rest of the family. Although my family looked up to me for better care and guidance regarding the care of my sick grandmother, because I was a 3rd year nursing student at the time, I lacked the competence and confidence to do so, and deep within me, I felt I had let my family down.

After completing my Bachelor's degree in 2006, I worked as a clinical nurse in a Catholic Health Centre in the small town of Sangmelima in the south of Cameroon, where I still very much struggled with the care of patients who were dying. I later joined the Higher Institute of Applied Medical Sciences in July 2007 as a nurse teacher, and the following year I was appointed Head of Department for Nursing, a position I held until 2010. Based on the needs in the country and thanks to my teaching experience and academic performance, I was selected alongside the eleven pioneer students, to undertake a Master degree program in nursing education. Learning about curriculum development during this program, I began to understand the need for nursing curricula that can prepare competent nurses who are capable of meeting the needs of health service users in Cameroon. It is thanks to this knowledge and some reflections on my past clinical experiences as a nursing student and qualified nurse, that I started to make sense of the reasons why I found it hard to provide care to patients who were approaching the end of life. My preregistration nurse training curriculum had no palliative and end of life care content.

In the final year of my master degree course, I was recruited to work as a graduate teaching and research assistant in the Department of Nursing, University of Buea. I held this position from March 2009 to October 2011 when I was upgraded to the status of Assistant Lecturer. To date I am part time Lecturer at the Higher Institute of Applied Medical Sciences and three other Higher Institutes of Health around the country. My experience covers clinical nursing practice, classroom and clinical teaching, training of clinical mentors, supervision of undergraduate nursing student research projects, paper presentations at scientific conferences and seminars, amongst others.

My academic qualifications, clinical and personal experiences, and experience in higher education teaching and curriculum development, coupled with my commitment and motivation to make a difference in people's lives contributed to the passion to undertake this journey towards making my own modest contribution to the development of an exciting and innovative portfolio of research and scholarly activity in palliative care education. It is my wish to throw more light into the unique experiences of a resource poor geographical context like Cameroon, which is characterized by many underserved communities.

These have influenced the way I approached this study, the questions I asked, the way I collected data and how I have interpreted the findings. It is vital that the reader considers my personal context throughout the reading of this thesis.

1.5 Thesis Overview

This thesis is made up of nine chapters.

In the first chapter I justify the need for preregistration palliative care education, discuss the significance of this study and explain my personal interest in the study area.

In chapter 2, I present the conceptual and contextual background of this study.

In chapter 3, I present a modified systematic review of research evidence about education for preregistration nurses in palliative care. This review has been published with BMC palliative care (Bassah, Seymour and Cox, 2014),

In chapter 4, I describe the methodology and methods that were used to conduct this study.

In chapter 5, I present the strategies that were used to develop a 30 hour classroom based palliative care course for Cameroonian preregistration nursing students as well as the outcome of these processes and how it informed the course development, including course aim, objective, content, educational strategies and underpinning theoretical framework.

In chapters 6, 7 and 8, I present the findings of this study, from both the quantitative and qualitative methods. Chapter 6 presents results of the impact of the course on students' palliative care knowledge and self-perceived competence and confidence in palliative care provision. In chapter 7 I describe students' report of the transfer of their palliative care learning to practice. Chapter 8 presents results on students' experiences and evaluations of the palliative care course.

In Chapter 9, I discuss the findings of this study, with its contribution to the existing body of knowledge in this area. In addition, the implications and limitations of the study, as well as recommendations based on study findings are also presented here. This chapter is followed by the reference list and appendices.

CHAPTER 2: CONCEPTUAL AND CONTEXTUAL BACKGROUND

2.1 Introduction

This section presents the conceptual and contextual background information of this study. It discusses the epidemiologic and demographic trends that fuel the need for palliative care, with a particular focus on sub-Saharan Africa and Cameroon. It then examines the current provision of palliative care in Cameroon and explains why Cameroon is considered resource-poor for palliative care. It also presents the public health model for palliative care which is the conceptual framework underpinning this study. It then discusses the education component of this model and examines the current status of palliative care nursing education worldwide, and the situation in Cameroon. It closes with an examination of the need for preregistration palliative care education globally and in Cameroon in particular.

2.2 Brief overview of the concept of palliative care

Palliative care according to the World Health Organisation is '... an approach that improves the quality of life of patients and their families facing the problems associated with life threatening-illnesses, through the prevention and relief of suffering, by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual' (Sepúlveda et al., 2002, p. 94). Palliative care:

- provides relief from pain and other distressing symptoms;

- affirms life and regards dying as a normal process;
- intends neither to hasten or postpone death;
- integrates the psychological and spiritual aspects of patient care;
- offers a support system to help patient's live as actively as possible until death;
- offers a support system to help the family cope during the patients illness and in their own bereavement;
- uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated;
- will enhance quality of life, and may also positively influence the course of illness;
- is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications. (Sepúlveda et al., 2002).

The Worldwide Palliative Care Alliance (WPCA) in its Global Atlas for palliative care further explains that palliative care is also needed in chronic conditions and that its delivery is not time, prognosis, or setting dependent. This implies that palliative care should be provided based on need and in any setting where a sick person's care is provided (WPCA, 2014). Thus contemporary palliative care goes beyond cancer care to include all chronic and life-threatening illnesses (cancer, HIV/AIDS cardiovascular and respiratory diseases, and diseases of older people), for all ages (young and old), at an earlier stage in the disease trajectory up to the bereavement period, and in all care settings (hospital, hospices, and homes) (WPCA, 2014; Gott et al. 2012; Payne et al. 2008; Murray et al., 2005; Davies and Higginson, 2004; Addington-Hall and Higginson 2001). Given this expanded scope, there is an increasing need for competent healthcare providers who can provide palliative care.

Palliative care can be delivered at all levels of care including the primary and secondary levels. It can be provided in various ways. First, it can be through a 'palliative care approach' adopted by all healthcare professionals who have been educated and are competent through appropriate training. Secondly it can be by 'general palliative care' provided by primary care professionals and those treating patients with life-threatening and chronic disease conditions, who have a good basic knowledge of palliative care. Third, it can be through 'specialist palliative care' provided by specialised teams for patients with complex problems (WPCA, 2014). Thus palliative care is a part of every healthcare provider's' everyday job (Gott et al. 2012). This study focuses on the education of preregistration nursing students to enhance their skills to provide 'general palliative care'.

2.3 The need for palliative care worldwide

The on-going shift in the predominant causes of global morbidity and mortality (Cohen and Deliens, 2012), has the potential to place a huge demand for palliative care, especially in resource-poor countries (Hunt, 2008). Statistics from the World Health Organisation show that there were approximately 54.6 million deaths worldwide in 2011 and 66% of these deaths were due to non-communicable chronic diseases (NCCD). The WPCA reports that over 29 million of the 2011 global deaths were from disease conditions that required palliative care like cancer, HIV/AIDS and cardiovascular and respiratory diseases. In fact the WPCA estimates that those dying from NCCD represent around 90% of the burden of end of life palliative care (WPCA 2014).

According to the WPCA, up to 20 million people in the world will require palliative care at the end of life, every year. The WPCA (2014) also estimates that a greater majority, 78%, of the adult population in need of palliative care at the end of life belong to resource-poor countries. In 2008 for example, about 14% of the 57 million global deaths were cancer related, with approximately 63% of the cancer deaths occurring in resource-poor countries (WHO, 2011a). The African Region harbours the highest number of adults and children in need of palliative care for HIV/AIDS (WPCA, 2014).

There are over 34 million people estimated to be living with HIV (WHO, 2012a), and sub-Saharan Africa (SSA) harbours up to 23 million of these infected persons (WHO, 2012b). SSA also bears the greatest burden of HIV mortality. In 2010 for example, as many as 1.3 million of the 1.8 million global HIV/AIDS related deaths were recorded among adults and children in SSA (UNAIDS, 2010) (figure 1 and 2). This high HIV mortality rate in SSA has been attributed to the inaccessibility and unavailability of antiretroviral therapy in some parts of the continent (UNAIDS, 2010; Payne et al., 2008). Nevertheless, HIV infected persons who have access to antiretroviral therapy now live longer than ever before, and therefore are in need of palliative care (Davies and Higginson, 2004).

Sixty to ninety percent (60-90%) of patients with advanced cancer and about 80% of HIV/AIDS patients experience significant pain requiring analgesics (Stjernsward and Clark, 2004; Foley, 1999) and other pain management interventions (Becker, 2010). Yet it has been reported that pain is under recognized and undertreated in as many as 60-85% of HIV patients in resource-rich countries. Based on this, an overwhelming situation of very poor pain management could be assumed of resource-poor countries, with a greater number of HIV/AIDS patients, underdeveloped healthcare systems and limited access to opioids (Ludwig and Chittenden, 2008). In sub-Saharan African countries pain and morbidity from cancer, and HIV/AIDS patients usually results more from opportunistic, treatable infections and other preventable factors rather than from the primary disease itself (Ddungu, 2011). Moreover, the period leading to death in both cancer and HIV/AIDS patients is said to be characterized by existential, psychosocial and physical problems, for both patients and their families (Murray et al. 2005). However, these individuals still continue to experience needless suffering. Many still die without adequate pain or symptom control, and lack access to the assessment and management of psychosocial and spiritual distress (Grant et al., 2011; Paice et al., 2008). Yet, for most of these patients, and those who die yearly, the substantial suffering associated with the dying process could be amenable to palliative care interventions, if available (Payne et al., 2008). Unfortunately, palliative care is by no means equally distributed across the world. In SSA, it is still only available to less than 5% of those in need (Grant et al., 2011), possibly due to inadequate resources and healthcare agendas (Payne et al., 2008; Hunt, 2008; Ludwig and Chittenden, 2008).

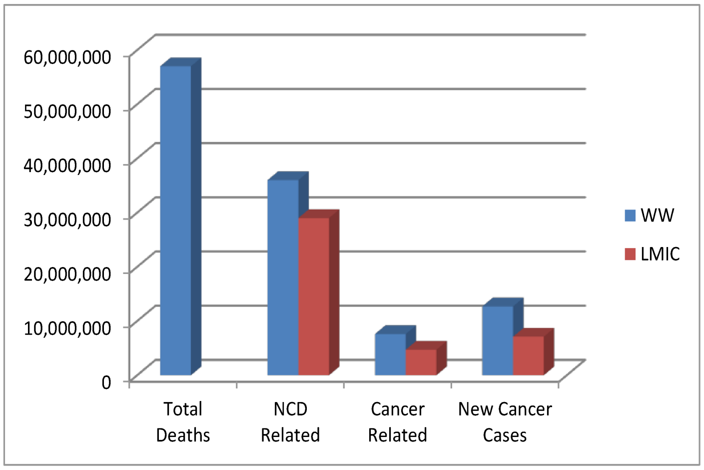


Figure 1: NCCD morbidity and mortality; worldwide and in low and middle income countries in 2008
(WHO 2011a; Ferlay et al., 2010)

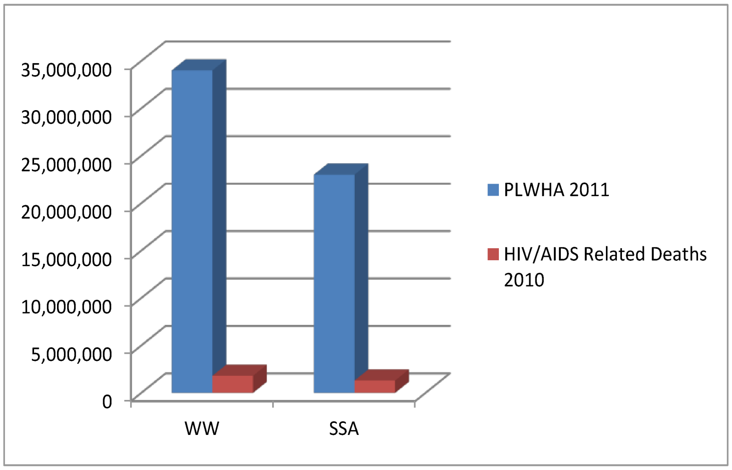


Figure 2: HIV/AIDS morbidity and mortality; worldwide and in SSA **(WHO 2012a; 2012b; UNAIDS, 2010)**

Demographic trends indicate a projected rise in the proportion of older persons in the world from 8% in 1950 and 10% in 2000, to 21% by 2050 (UN, 2002). Resource-rich countries are ageing faster than resource-poor countries and Europe leads the world in ageing at the global level. Although sub-Saharan Africa's elderly population is not as large as that of other regions in the world, it must be considered a potential cause for concern. It is envisaged that, in the next few decades, Africa will see exponential increase in the absolute size of its older population. The number of those aged 60+ is projected to rise four-fold from 45.7 million to 183 million (UN, 2002). This ageing African population is bringing with it novel challenges for the continent. If chronic diseases become more common with age, then the number of people in Africa living with the effects of chronic illnesses will increase, and accordingly, the need for palliative care services towards the end of life will also increase (Seymour, 2012). Despite these, there are barely any government structures to cater for the aging population in most African countries, and the few that are present, in a small number of African countries, lack the skills needed to provide adequate palliative care (Powel et al., 2008).

This huge need for palliative care, and the significant lack of palliative care services, particularly in resource-poor contexts, as stated by Sepúlveda et al. (2002), calls for the development of palliative care through effective low cost strategies. In this light, the World Health Organisation developed a public health strategy to facilitate palliative care development in resource-poor countries (Stjernsward et al., 2007). This strategy is discussed in the next sections.

2.4 The World Health Organisation’s public health strategy for palliative care

The WHO’s public health strategy for palliative care offers the best possible means for the translation of cost-effective palliative care interventions that can reach everyone in the population who is in need. This strategy comprises of four components including: 1) availability of appropriate policies, 2) adequate drug availability, 3) education of healthcare workers and the public, and 4) implementation of palliative care. Its effectiveness is said to be greatly dependent on its incorporation into all levels of a country’s healthcare system. It is also dependent on the involvement of the community through collective social action (Stjernsward et al., 2007).

Although all the components of this strategy are relevant, education seems to be a crucial starting point, since palliative care provision at scale depends on work-force development. Education is needed to increase awareness, change attitudes and behaviours, and improve the knowledge and skills of health and social care professionals, policies makers and the wider community about palliative care. The public health model suggests the integration of palliative care content into healthcare professionals’ educational programs at the induction and continuing professional development levels. This has the potential to significantly contribute towards the development of professionals who can improve the experience of illness for patients and their families (Stjernsward et al., 2007).

With this in mind, palliative care organisations like the African Palliative Care Association (APCA), the European Association of Palliative Care (EAPC), the End of Life Nursing Education Consortium (ELNEC), have developed core competencies, core curriculum contents and several palliative care educational resources (APCA, 2012a; EAPC, 2004; ELNEC, 2012). These core curricula recommend the development of professionals' competencies in: pain and symptom management, communication, advance care planning, psychosocial and spiritual care, grief and bereavement management, palliative care service management, education and research. These competencies have been developed, recognising the different levels of palliative care provision: 1) basic level; for healthcare providers in training and those working in general health care services, 2) intermediate level; for healthcare providers working in specialist palliative care units and 3) specialist level; for professionals in consultative and research positions (APCA 2012a; Sneddon, 2008; Adriaansen and Achterberg, 2008; EAPC, 2004). However, most healthcare professional training institutions worldwide still lack palliative care content in their curriculum (Wee and Hughes, 2007).

2.5 The current state of palliative care nursing education globally

Registered nurses constitute a majority of the healthcare workforce in most countries and spend the most time with dying patients and their families (Payne et al. 2009; MacDonald and McCready, 2007), making it essential for preregistration nursing students' to receive education in palliative care. However, only a few preregistration nurse training institutions have included palliative care in their training curricular; usually the UK and the USA. There is lower implementation in resource-poor countries, especially those in SSA (Wee and Hughes, 2007). A global deficiency however is the focus on the development of post registration courses and a neglect of preregistration education (Frommelt, 2003; Ferrell et al., 2000). For example, in a literature review on the contents and effects of palliative care courses for nurses by Adriaansen and Van Achterberg (2008) which included 27 studies, only 3 were conducted with undergraduate nursing students. Similarly, in an evaluation report on the education of district and community nurses in palliative care in the UK, Addington-Hall et al. (2006) comment on the small amount of research on the effectiveness of palliative care education at the preregistration level. Although there have been interventions to improve this deficit, these have been predominantly in a small number of resource-rich countries such as the UK (Bassah et al., 2014; Cavaye and Watts, 2010; Dickinson et al., 2008), USA (Grant et al., 2009; Ferrell, 2006), and Canada (Wilson et al., 2011).

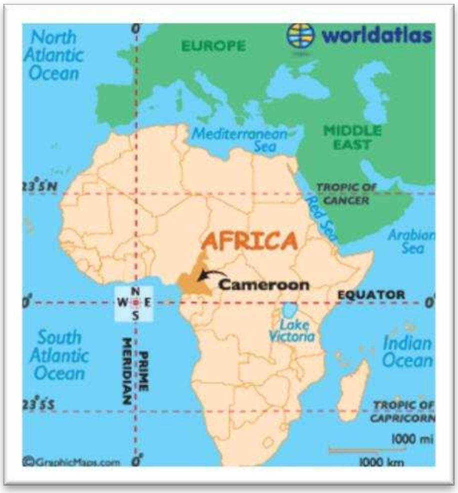
This emphasis on post registration education seems to portray an implicit assumption by nurse educators that every registered nurse will eventually receive training in palliative care. This may be true in resource-rich countries, like the UK, where nursing regulatory bodies do not only mandate this education but also ensure that training opportunities exist (National Council for Palliative Care UK, 2012). Resource-poor countries however have limited and inaccessible post registration palliative care education opportunities (Gywther, 2007; Goh and Shaw, 2007; Kumar,

2007) and thus need to make use of the preregistration opportunity to prepare the workforce for palliative care provision (Frey et al., 2013; Davies and Higginson, 2004).

2.6 The need for palliative care and palliative care nursing education in Cameroon

2.6.1 Brief description of Cameroon

Cameroon is a sub-Saharan resource-poor country with a population estimate of 19,599 million people (WHO, 2013; Cameroon Population Studies, 2010). Cameroon is situated at the crossroad of Central and West Africa, north of the equator with Nigeria to the west, Chad to the north, Gabon and Congo to the south and the Central African Republic to the east (Figure 3). The climate varies with terrain, from tropical along the coast to semiarid and hot in the north (www.geog.ox.ac.uk). There are two administrative languages; French and English and 10 administrative regions, with Yaoundé as the administrative capital (Pouomogne and Pemsl, 2008).



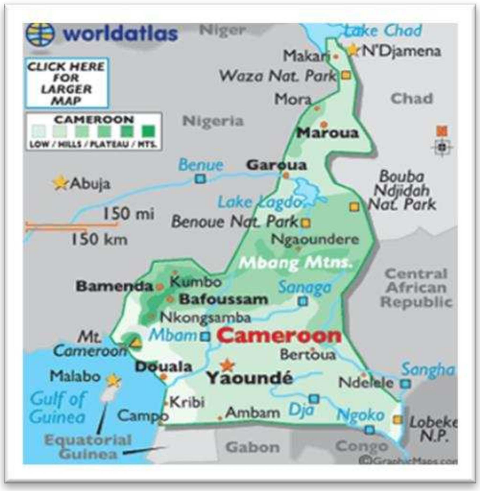


Figure 3: **Map of Cameroon in Africa**
Source: www.worldatlas.com

2.6.2 HIV/AIDS in Cameroon

555,000 Cameroonians were estimated to be living with HIV/AIDS in 2011 (WHO, 2012b), giving a national prevalence of 5.5%. At current rates, the National AIDS Control Committee (NACC) in Cameroon estimated that there will be 726,000 people living with HIV/AIDS by 2020 if adequate preventive measures are not ensured (NACC, 2010). There are approximately 490,000 Cameroonians aged 15 and above living with HIV. About 280,000 women are living with HIV (UNAIDS, 2013), and consequently, maternal to child transmission rates are high. As many as 7,300 babies are expected to be born HIV positive (NACC, 2010) and up to about 58,000 children, aged 0 to 14, are living with HIV in Cameroon (UNAIDS, 2014). Children under age 18 who have lost one or both parents to AIDS have increased dramatically from 13,000 orphans in 1995 to 340,000 in 2013 (UNAIDS, 2013; NACC, 2010) (Table 1). This high numbers of HIV infections demands increased allocation of health sector resources to AIDS management (Mbanya et al., 2008). Effective HIV/AIDS management however entails adequate palliative care for these patients, their families and the rising numbers of orphans and vulnerable children (Grant et al., 2011). This is needed to relieve them of some physical, social, psychological and spiritual problems they may be experiencing, and to improve the quality of patients' live.

Table 1: HIV/AIDS in Cameroon

(UNAIDS, 2013; WHO, 2012b; NACC, 2010)

Parameter	**Year**	**Statistics**
Number of HIV/AIDS related Deaths	2009	29,000-47,000
Total Number of people living with HIV	2011	555, 000
Number of Adults living with HIV	2011	490,000
Number of Women living with HIV	2011	280,000
Number of children (0-14) living with HIV	2011	58,000
Number of AIDS orphans (0-17 years)	2013	340, 000

2.6.3 Noncommunicable chronic disease trends in Cameroon

There is also an upsurge of noncommunicable chronic disease morbidity and mortality in Cameroon, attributable to the adoption of unhealthy eating habits, physical inactivity, and increasing tobacco use (Echouffo-Tcheugui and Kengne 2011). According to WHO (2011b) 39.7% and 46.1% of men and women per 1,000 populations in Cameroon experience noncommunicable chronic disease related deaths. Except for some information on relative frequencies of the incidence and prevalence of different cancers in selected areas, the epidemiology of cancer in Cameroon is relatively unknown. While the data of the incidence and prevalence of cancer in this country may not be reliable, the current estimate of an annual incidence of 15,000 and a prevalence of 25,000 in a population of about 19,522 million mean that cancer is increasingly becoming a public health problem in Cameroon (Orock et al., 2012). With such high prevalence and incidence of cancer in this country, there is need for strategies to address the problem. Yet the country’s Ministry of Health, as of 2008, only spend 1% of its annual budget on cancer control. Moreover, there are no population based cancer registry and management facilities in the country (WHO, 2011b). There are only two cancer treatment centres in the entire country, operational in the two main cities of the country, Yaoundé and Douala, (Orock et al., 2012). Most cancer patients therefore are found in general hospital wards or in their homes and clearly are in need of palliative care interventions like pain and symptom management, spiritual and psychosocial care.

2.6.4 Socio-demographic trends in Cameroon

In Cameroon, over 60 percent of the population used to live in rural areas where the structures of the extended family ensured in the past that old people were well catered for. As the HIV/AIDS epidemic has been ravaging the young and middle aged population, and as more and more young people are migrating to urban centres and to Europe and America, older people are increasingly living alone, often with grandchildren, who may have been orphaned to care for. Generalized poverty, low standards of living and the emerging epidemics of chronic diseases like cancer, arthritis and cardiovascular diseases have made our aged population a predominantly sick population, thereby enlisting them as candidates for palliative and end of life care. The next paragraphs characterise Cameroon as resource-poor in terms of palliative care and discusses the current state of palliative care provision in Cameroon.

2.6.5 The current state of palliative care provision in Cameroon

In Cameroon, as in other resource poor countries, there are few dedicated palliative care services. The Cameroon Baptist Convention Health Board Integrated Hospice Programme is the first documented move to the development of palliative care in Cameroon (APCA, 2012b) and this organisation runs palliative care services in some of their health units in the country. The Bamenda Regional Hospital and the St. Mary Soledad Health Centre Bamenda have recently set up palliative care services which are still in their developmental stages. There are a few of these services in the Central, Littoral and Western regions of the country. Though these services exist, a policy framework for palliative care is lacking from the National Health Strategic plan. Moreover, the current HIV/AIDS and cancer management policies in Cameroon do not include palliative care (APCA, 2012b). Palliative care drugs including morphine are available in the country, but these drugs are not found on the national drug list and morphine is highly restricted (Human Rights Watch, 2009). Cameroon was among the countries classified by the Human Rights Watch (2011) as not having any recorded consumption of opioid pain medicines between 2006 and 2008. This, according to the Human Rights Watch (2011), 'shows that there are no medicines to treat moderate to severe pain available through legitimate medical channels' and demonstrates an 'enormous unmet need for pain management in the country' (p.10). These are seemingly due to the following factors, which have been advanced as limiting palliative care in SSA:

- ✓ The reluctance of most governments to integrate palliative care into the healthcare system and the legal restriction of opioids in some countries (Mwangi-Powell and Dix, 2011; Harding and Higginson, 2005).
- ✓ The lack of resources and socio-cultural barriers, which limit the nature and type of palliative care services that can be offered (Gysels et al; Grant et al., 2011).
- ✓ The inadequate numbers of health care staff who have been trained in palliative care and limited specialist palliative care professionals to provide this care (Gysels et al. 2011; Mwangi-Powell and Dix, 2011).
- ✓ The lack of postgraduate palliative care training programs and rare presence of palliative care contents in the undergraduate curriculum of health and social care professions, in most African countries to prepare the needed workforce (Mwangi-Powell and Dix, 2011; Gwyther, 2007).

Although all the above factors are all pertinent to improving palliative care in sub-Saharan African countries, investing in palliative care education is paramount to ensuring a population coverage and palliative care provision at scale, from a public health perspective (Ingleton et al., 2013; Kinghorn and Gaines, 2007). It seems therefore clear that the lack of awareness about palliative care and its benefits, among healthcare providers and policy makers is a key hindering factor (Mwangi-Powell and Dix, 2011; Downing, 2007; Gwyther, 2007).

2.6.6 Cameroon as a resource-poor country with regard to palliative care

The non-integration of palliative care in the healthcare delivery system of Cameroon, the absence of palliative care policies, inadequate funding for palliative care programs, lack of competent health workers to offer palliative care, unavailability of drugs for palliative care especially morphine, government restrictions on the prescription and use of morphine, the uneven distribution of existing palliative care services, described above, all characterise Cameroon as a resource poor country for palliative care. In the context of these issues, dying from cancer, HIV/AIDS, and other non-communicable chronic diseases in Cameroon is often significantly associated with pain, poor control of other symptoms and lack of psychosocial support (Human Rights Watch, 2009). Thus Cameroon is an example of a setting in which it is urgent to consider how to address gaps in the WHO public health model for palliative care (Stjernsward et al., 2007), namely: policy, education, implementation and drug availability. This thesis focuses on the provision of palliative care education to preregistration nursing students since palliative care provision at scale depends on work-force preparation.

2.6.7 Palliative care nursing education in Cameroon

Palliative care is not a regular feature in the training curricula of health professionals in Cameroon. In the report by Mwangi-Powell and Dix (2011), and the findings from the study by Grant et al., (2011) Cameroon does not feature among the countries that have integrated palliative care content into the undergraduate training program for healthcare providers. Although Wright et al. (2008) report that Cameroon is at the stage of capacity building for palliative care, they do not provide any evidence of the presence of palliative care training programs in the country. However, in a report on the global state of pain treatment, focusing on palliative care as a human right, the Human Rights Watch (2011) reports that Cameroon has 'no opportunities for medical education in pain management or palliative care' (p. 2). The APCA also reports that there is no official information on whether palliative care is a component of the training programs for healthcare providers in Cameroon (APCA, 2012b). This education deficiency, coupled with the huge need for palliative care, and seemingly lack of political commitment to palliative care, has stimulated a 'bottom up' approach to palliative care nursing education in this country.

In Cameroon, some palliative care seminars for registered nurses have been delivered through partnership between local institutions and international collaborators and some nurses have travelled to other countries to undertake a palliative care specialization course (Box 1). However, these educational approaches are expensive and not accessible to every nurse in Cameroon. There is also a legitimate concern that they may not be sustainable and might not adequately prepare the numbers of nurses needed to meet the needs for palliative care in Cameroon. In fact the seminars have mostly been attended by staff members of the Cameroon Baptist Convention Health Board (CBCHB), with just a few others from other hospitals in the country. This might suggest that the training benefits so far are largely inaccessible to the greater majority of patients.

Box 1: Professionals in Cameroon who have attended palliative care training

- 2 nurses who work with the CBCHB studied for a Diploma in Palliative Care at Hospice Africa Uganda (HAU) in 2004 and 2010 (Human Rights Watch, 2009).
- 2 other nurses who work with the CBCHB attended a five weeks course in palliative care in Uganda in 2010.
- Eleven students from five regions in Cameroon, attended a palliative care course from the 6th-18th December 2010, organised by the CBCHB.
- Some Cameroonians were among the 14 participants of the 'palliative care initiators' course in Francophone Africa' hosted by the CBCHB from the 2nd April- 4th of May 2012 and organised by the CBCHB, HAU, Hospice Africa France, and 'Alliance Mondiale Contre Le Cancer' (Millington, 2012).

2.6.8 The need for preregistration palliative care nursing education in Cameroon

Nurses are the mainstay of the care of dying persons and their families, and as such should be competent and confident in palliative care (Wallace et al., 2009; MacDonald and McCready, 2007). Yet there is evidence of the lack of palliative care knowledge and skills among registered nurses, newly qualified and student nurses in other contexts (Gott et al., 2012; Cavaye and Watts, 2010; Gott et al., 2009). Similarly, nurses have complained about the inadequacies of their preregistration palliative care education (Paice et al., 2008; Robinson, 2004; White et al. 2001). This evidence points to a preregistration education gap that needs to be addressed. It also raises the importance of preparing the workforce for future care of the dying, during their initial training, to provide them with the core capabilities required for the delivery of evidenced based palliative care (Ramjan et al., 2010).

It is worth noting that specialist palliative care professionals and services in resource-poor countries are virtually non-existent or overwhelmingly stretched (Wright et al., 2008; Hunt, 2008). Davies and Higginson (2004) have argued that it is unrealistic to address the scale of needs for palliative care by expanding the specialist workforce; improving the education of healthcare professionals at the undergraduate level is potentially a more feasible strategy (Frey et al., 2012). This may ensure that a greater majority of those who need palliative care, which has been portrayed as a basic human right (APCA, 2010), have access to it.

While there are no publications on the current state of preregistration palliative care nursing education in Cameroon, I can say from my experience, as someone who trained, and practised nursing in this country, and is currently a nurse educator that, palliative care nursing education in Cameroon is inadequate. There is need for palliative care nursing education initiatives that are accessible, sustainable and integrated into all preregistration nursing curricula to ensure that every nurse is competent to attend to the core palliative care needs of those with life-threatening illnesses and dying persons in Cameroon. These might include: assessing patients' and carers' needs, communicating with and counselling patients and their families, managing pain and other symptoms, providing support during the bereavement period, anticipating any issues that might arise and recognizing the need for specialist care (Shipman et al., 2008). In this regard, core curriculum contents and competencies that have been developed by international palliative care organizations as well as evidence based education strategies used in other contexts could be adapted for use in Cameroon (Kern et al., 1998; Hauer and Quill, 2011).

2.7 Conclusion

This review has shown a great need for palliative care, particularly in resource-poor countries like Cameroon, requiring competent healthcare staff who can respond to the need. It has thrown light on the lack of palliative care services and has shown that the lack of competent healthcare providers who have been trained in palliative care is a major factor in the deficiency of palliative care services globally and in Cameroon in particular. It has also revealed the lack of palliative care education for nurses at the preregistration level and has suggested the improvement of the current status of preregistration palliative care education as a baseline strategy to improve on current palliative care provisions. These motivated me to conduct a modified systematic review of educational interventions with preregistration nursing students to explore evidence based education strategies, in order to write a palliative care course that can be used for preregistration nursing education in Cameroon. This review is presented in the next chapter.

CHAPTER 3: LITERATURE REVIEW

3.1 Introduction

This chapter presents a modified systematic review of research evidence about the education of preregistration nursing students in palliative care. The review presented here has been published with BMC Palliative Care (Bassah, Seymour and Cox, 2014). However in order to improve the readability of the chapter and thus the entire thesis, some materials of the original article have been deleted and others edited.

3.2 Aims

This review was aimed to:

1. Report on approaches that have been employed to educate preregistration nursing students about palliative care.
2. Examine evidence of the effectiveness of this education.
3. Discuss implications for the development of curricula in resource-poor countries.

3.3 Method

While a traditional systematic review demands a predetermined protocol and entails the identification, evaluation and interpretation of available research regarding a concise question, using explicit search methods, inclusion criteria, data extraction strategy and scientific quality appraisal tool (Schlosser, 2007), a modified review might not include all of these (Dixon-Woods, Fitzpatrick and Roberts, 2001). In this modified review, the search terms and the research aims were predetermined and inclusion criteria were clearly stated. The review included both studies that employed quantitative, qualitative or mixed methods. No instrument was used to formally assess the scientific quality of the studies included. This modification was informed by the dearth of research about this topic.

3.4 Searches

The following databases were searched: CINAHL, EMBASE, Medline, and PsychINFO for journal articles published from January 2000 to December 2013, in the English Language (Table 2). We employed the following terms in our search: palliative care, end of life care, death and dying, care of the dying, and terminal care in combination with the Boolean operator (AND) nursing education. In addition, the references listed in identified articles were checked.

Table 2: Search terms used and results

Search Terms	**AND**	**Database**	**Number of articles identified excluding duplicates**
Palliative care, end of life care, death and dying, terminal care, care of the dying	Nursing Education	CINAHL	430
		EMBASE	309
		MEDLINE	30
		PsychINFO	9
Total			778

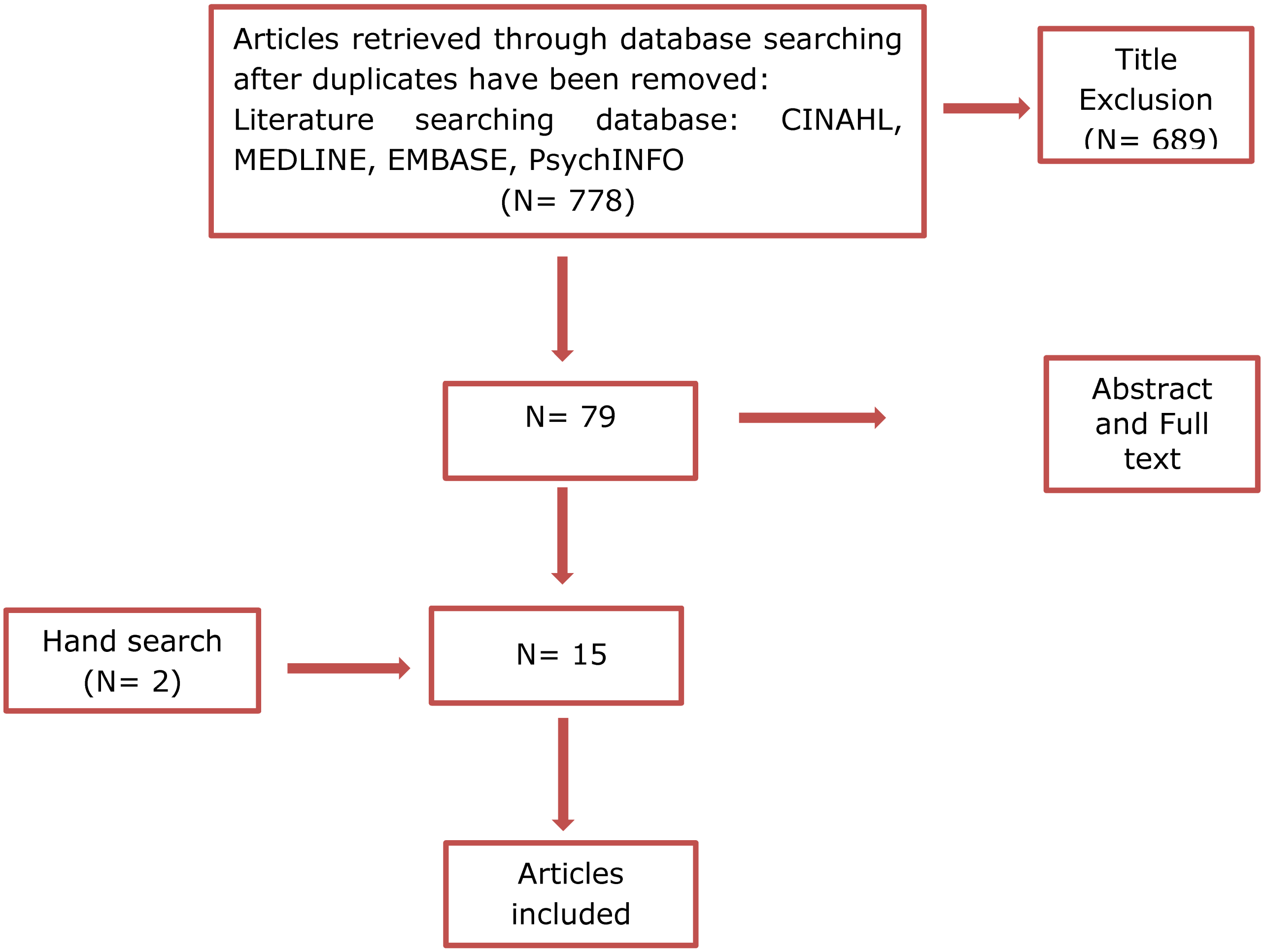
3.5 Inclusion criteria for articles

After obtaining the articles, the titles and abstracts and later the full texts were checked to see if they met the inclusion criteria (Figure 4). Quantitative, qualitative and mixed methods articles were all included if:

- They reported an educational intervention aimed to improve students' palliative and end of life care competencies.
- They related to the education of preregistration student nurses or a multidisciplinary group of undergraduate students, including student nurses.
- They were published in the English Language.

Educational intervention studies focusing on the education of undergraduate student nurses on paediatric palliative care or end of life communication skills only, as well as descriptive studies of a palliative care educational approach not aimed at improving student nurses' palliative and end of life care competencies were excluded.

Figure 4: PRISMA flow diagram



3.6 Data extraction, analysis and synthesis

Data about: place and year of study, characteristics of study participants, aims and objectives of the intervention, contents and strategies used in the intervention, evaluation methodology and reported outcomes and effectiveness were extracted from the articles. Data analysis and synthesis were guided by the review aims and results are presented under main themes as shown on table 3.

3.7 Findings

The search strategy yielded 778 journal articles of potential use. The search terms used and database results are cited on Table 2. We further identified 2 articles from a manual search of relevant articles. A total of 17 articles met the inclusion criteria. The 17 studies had been conducted in resource-rich countries; USA (13), Canada (1), Australia (1), and UK (1) and assessed the impacts of palliative care education on student nurses':

- Attitudes towards care of the dying (Dobbins, 2011; Barrere et al., 2008; Malory, 2003; Frommelt, 2003);
- Attitudes and self-perceived competencies in end of life care (Gilliland, 2011);
- Self-efficacy in communication skills and attitudes towards care of the dying (Weismann, 2011);
- Palliative care knowledge (Kwekkeboom, 2006; Arber, 2001);
- Knowledge of end of life signs and symptoms, and self-efficacy (Moreland et al., 2012);
- Self-perceived comfort level in dealing with dying patients (Thompson, 2005),
- End of life care knowledge, self-confidence in caring for the dying and self-reported communication skills in working with end of life patients (Fluharty et al., 2012) and
- Self-perceived competencies in palliative care (Bush, 2012).

The remaining 5 studies described the effectiveness of palliative and end of life care education in improving students' palliative and end of life care competencies using educational strategies such as workshops (Brien, Legault and Tremblay, 2008), films (Dibartolo and Seldomridge, 2009) simulated clinical experiences (Eaton, Floyd and Brooks, 2012; Birkholz et al., 2004) and real life clinical practice experiences (Pulis, 2013).

3.8 Educational strategies for preregistration palliative care nursing education

Course design

Palliative care education at the preregistration level was delivered in two main ways within the courses reviewed here:

1) Palliative care topics were integrated throughout the nursing program curriculum (Pulis, 2013; Dibartolo and Seldomridge, 2009; Barrere et al., 2008). For example, through teaching about: quality at the end of life and ethical and legal issues at the end of life in a course about nursing issues and trends; symptom management in a medical/surgical nursing course (Barrere et al., 2008); and end of life care in a nursing process course (Dobbins 2011).
2) Palliative care offered either as a separate elective (Moreland et al., 2012; Bush, 2012; Weismann, 2011; Leighton and Dubas, 2009; Kwekkeboom et al., 2006; Thompson, 2005; Frommelt, 2003) or a mandatory course (Brien et al., 2008; Mallory, 2003).

Course participants

Participants of preregistration palliative care nursing education included both male and female student nurses of varying ages and cultures and varying religious views and experiences with death and care of the dying. Most studies were conducted with student nurses in an advanced stage of their program (Bush, 2012; Eaton, 2012; Dobbins, 2011; Thompson, 2005; Frommelt, 2003) with just a few with students at an earlier stage (Moreland, 2012; Weismann, 2011; Dibartolo and Seldomridge, 2009; Mallory, 2003). There were two reports of mixed implementation (Fluharty et al., 2012; Leighton and Dubas; 2009) with a combined group of students who are in an advanced as well as earlier stage of their nursing course.

Course content and duration

A wide variability of time dedicated to education in palliative care was found, from 2 to 50 hours. For example, Frommelt (2003) implemented a course entitled 'Living with loss', which included topics related to loss, dying, death, grief and bereavement, for 45 hours spread over a 15 weeks semester long period. Mallory (2003) implemented an ENLEC based elective course for 6 weeks. Similarly, Dobbins (2011) implemented an elective 'Nursing Care at the End of Life' course using the ENLEC curriculum content for 14 weeks. This same author implemented a Nursing Process course that had ENLEC palliative care contents including; pain and symptom management, cultural consideration, patient/family communication, preparation for care at the time of death and after, for 3 hours. Kwekkeboom et al. (2006) used a 2 hour session to review palliative care related topics and 4 months for a palliative care companion component. At the other end of the spectrum, Arber (2001) implemented an elective end of life care course for 50 theoretical hours and 1 week of hospice placement in five months duration.

Theoretical considerations

Preregistration palliative care nursing education has been underpinned by transformative and experiential learning theories. With regards to transformative theory, the use of educational strategies like role playing, group activities and interaction with patients are reported to encourage a critical self-reflection by students to help them evaluate their views and beliefs and to change their attitudes towards care of the dying, from negative to positive (Barrere et al., 2008; Mallory, 2003). In relationship to experiential learning theory, learners' prior personal experiences, experiential classroom and field based experiences as well as educational methods that allow learners to interact with and to reflect on the subject matter are reported by nurse educators as beneficial to students learning in palliative care (Fluharty et al., 2012; Moreland et al., 2012; Gilliland, 2011; Leighton and Dubas, 2009; Brien et al., 2008; Kwekkeboom et al., 2006).

Educational approaches

A mix of both didactic and experiential educational strategies is reported. Mallory (2003) used a theoretical package alongside experiential learning at a hospice, a funeral home, and an anatomy laboratory to facilitate transformative learning in students. An approach combining interactive classes with experts, reading of recommended texts, field trips and online discussions were employed by Thompson (2005) to enhance students' learning. In addition to lectures, supplemental texts, hospice and funeral home visits, Dobbins (2011) employed a cinemeducation approach by using a film called the 'Wit,' to educate student nurses about death and dying. DiBartolo and Seldomridge (2009) asked students who had initially participated in end of life care lectures and had hospice practice experience to watch and reflect on either of these two films: *Tuesdays with Morrie or Whose Life Is It Anyway?,* to enhance their knowledge of the dying process and the complexity of human reactions when facing end of life situations. Brien et al. (2008) used a workshop approach incorporating emotionally charged learning activities through lectures, clinical case studies, individual and plenary reflective activities, viewing of a documentary film and role-playing simulations to enhance the learning of compassionate interventions for end of life care.

Experiential learning strategies including: using student volunteers as companions of dying patients and their families (Kwekkeboom et al., 2006), students' writing diaries about their palliative care experiences and sharing stories about personal loss (Weismann, 2011), clinical simulations using high fidelity patient scenarios (Eaton et al., 2012; Fluharty et al., 2012; Moreland et al., 2012; Leighton and Dubas, 2009) and real clinical practice experience in an end of life care setting (Pullis, 2013; Gilliland, 2011; Arber, 2001) have also been used to educate students about palliative and end of life care.

Furthermore, some nurse educators have provided students with supplemental texts, videos and online palliative care educational materials to boost end of life curricula and bridge the limited presence of end of life care contents in core medical-surgical nursing textbooks (Pullis, 2013; Dibartolo and Seldomridge, 2009; Barrere et al., 2008, Frommelt, 2003; Mallory, 2003).

3.9 Outcomes and effectiveness of preregistration palliative care nursing education

Research design and sampling

Outcomes and effectiveness were primarily evaluated using quasi-experimental designs, including: a controlled longitudinal design (Barrere et al., 2008), a controlled pretest-posttest design (Gilliland, 2011; Weismann, 2011; Kwekkeboom et al., 2006; Frommelt, 2003), a pretest-posttest single group design (Fluharty et al., 2012; Moreland et al., 2012; Thompson, 2005) and a posttest only design (Pullis, 2013; Bush, 2012). Some studies employed both qualitative and quantitative methods, to assess both course impacts and students' satisfaction (Dobbins, 2011; Gilliland, 2011). One study used a qualitative design (Eaton, 2012). Others studies did not clearly state how course outcome and/or effectiveness were evaluated (Pullis, 2013; Dibartolo and Seldomridge, 2009; Leighton and Dubas, 2009).

Outcome measures

Outcome measures included: students' attitude towards death and care of the dying (Dobbins, 2011; Weismann, 2011; Barrere et al., 2008; Frommelt, 2003; Mallory, 2003), students' palliative care knowledge (Moreland et al., 2012; Kwekkeboom et al., 2006; Arber, 2001) and self-perceived competencies in palliative and end of life care (Bush, 2012; Eaton et al., 2012; Gilliland, 2011; Weismann, 201).

Measurement instruments and methods of data analysis

Validated instruments were mostly utilised to assess study outcome and included: the FATCOD (Frommelt Attitude Towards Care of the Dying) scale to assess attitudes towards care of the dying (Barrere et al., 2008, Brien et al., 2008; Frommelt, 2003; Malory, 2003), DAP-R scale to measure attitudes towards death (Mallory, 2003) and the Palliative Care Quiz for Nursing (PCQN) to assess students' palliative care knowledge (Kwekkeboom et al., 2006; Arber, 2001). Nevertheless, instructor-constructed rating scales, without any validity and reliability testing were also used (Bush, 2012; Moreland et al., 2012; Thompson, 2005). In the study by Fluharty et al (2012) content validity of developed instruments were established by a group of 12 nurse educators. Additionally, end of course evaluation survey instruments, group interview guides, students' reflective journals and/or examination scores were used by some authors to assess students' satisfaction with the educational activity, self-perceived course outcomes and effectives, as well as their perspectives on course improvement strategies, where applicable (Moreland et al., 2012; Dibartolo and Seldomridge, 2009; Brien et al., 2008).

Inferential statistical analysis methods were predominantly utilised in the data analysis (Moreland et al., 2012; Bush, 2012; Kwekkeboom et al., 2006; Frommelt, 2003, Mallory, 2003). Studies with smaller samples used descriptive statistics (Weismann, 2011). Thematic analysis was utilized by the qualitative studies (Eaton et al., 2012; Leighton and Dubas, 2009).

Reported outcomes and effectiveness

Some studies reported a positive impact of palliative care education (Moreland et al., 2012; Weismann, 2011; Barrere et al., 2008; Mallory, 2003), especially in improving attitudes towards care of the dying. For example Barrere et al. (2008) recorded a significant overall change in students' attitude towards care of the dying (t = - 5.977, p =.000). In addition, Weismann (2011) also registered a 6 point increase in attitudes towards care of the dying in the intervention group compared to 0.6 point increase in the control group. Similarly, Thompson (2005) found a significant improvement in comfort levels in dealing with issues regarding the care of dying patients and their family, from an average of 4.8 on a scale of 10 in to an average of 7.5. However, variables like age, gender, previous death experience, and religious belief are reported as predictors of attitude change (Barrere et al., 2008; Frommelt, 2003; Mallory, 2003). In the study by Barrere et al (2011), lack of previous experience with death and an age of 18-22 accounted for the most variance in attitude change.

Of the two studies in this review that investigated the impact on knowledge using a validated instrument, Kwekkeboom et al., (2006) recorded no significant knowledge improvements and Arber (2001) reported significant improvements mainly on students' knowledge of symptom control and opioid use. Fluharty et al (2012) report significant improvements in students' end of life care knowledge (p = .000). Although Moreland et al (2012) also report significant improvements in students' knowledge (p = .003), they were only limited to knowledge of end of life symptoms. Pullis (2013) states that students were able to demonstrate the principles of pain and symptom management and the ability to communicate the goals and philosophy of hospice care and to advocate for individuals at the end of life, without providing any evidence of measures used in this assessment.

Positive impacts were recorded on self-efficacy in communication skills; from a pretest mean of 61.7 (SD = 25.86), to a posttest mean of 80.0 (SD = 15.2) in the study by Weismann (2011). Similarly, Moreland et al. (2012) and Fluharty et al. (2012) also recorded a significant increase (p =.05 and p = .000 respectively) in students' self-efficacy in end of life care. Notwithstanding, Gilliland (2011) did not record any significant change in self-reported competencies in end of life care. On a general scale however, these studies report that palliative and end of life care education is effective in improving student nurses' self-perceived competencies in palliative and end of life care (Eaton et al., 2012; Bush, 2012; Weismann, 2011; Leighton and Dubas, 2009; Brien et al.,2008).

Table 3: Summary table of educational strategies, evaluation methods and effectiveness

Author, Year and Country	**Course Aims/Objective**	**Educational Methods**	**Study Design**	**Study Outcomes and Effectiveness**
Arber (2001) **UK**	To measure 3rd year students' knowledge of palliative care before and after a palliative care module	Lecture, and hospice practicum experience	Pretest-posttest	Statistical significant (P= 0.001) increase in knowledge
Frommelt, K.M. (2003) **USA**	To examine the effects of education on attitude towards care of the dying patient and their families	Lecture, Role play, case study presentations in story formats,	Controlled Pretest-posttest	Significant positive change in attitude for the intervention group t= 7.283, p < 0.05
Mallory, J (2003) **USA**	To assess the impact of education on attitudes towards care of the dying	Lectures, group discussions, Role play, visit to a gross anatomy cadaver laboratory, funeral home and hospice	Controlled pretest-posttest longitudinal	Significant improvements (p<.05) in attitude score in the intervention group
Thompson, G. T. (2005) **USA**	To assess the degree of change in comfort level in the care of the dying that students experience during a palliative care course	Interactive lectures, online discussion, reading of recommended books, field trips to a funeral home, role playing, journaling of experiences	Pretest-posttest	Increase in comfort levels from an average of 4.8 before to 7. 5 after
Kwekkeboom et al. (2006) **USA**	To assess the impact of a volunteer companion program on students' knowledge, attitudes and concern caring for a dying patient	Orientation lecture, spending time with patients and their families, making up bereavement phone calls to families of patients previously cared for, keeping Journal of experiences	Controlled pretest-posttest	No significant change in knowledge; Significant decrease in concerns scores P <0.01 Attitude scale not assessed due to poor reliability
Brien, Legault and Tremblay (2008) **Canada**	To develop effective nursing competencies for end of life care among undergraduate student nurses.	Plenary reflective activities, viewing of a documentary film and participating in role-playing simulations.	Mixed Method	Attitudes related to apprehensions and beliefs regarding interventions with dying persons and their families changed positively for most students.
Barrere et al. (2008) **USA**	To assess the influence of integrating the ELNEC curriculum into a 1 year and 4 years baccalaureate program on students' attitudes toward care of the dying	Lecture, discussions, clinical placement experience in the care of the dying in hospitals, homes, extended care facilities and hospices	Pretest-posttest	Type of program not significant in attitude change. Significant improvements in attitudes, t = - 5.977, p =.000

Leighton and Dubas (2009) **USA**	To facilitate application of theory content to a clinical end-of-life scenario.	Simulated end of life care clinical experience.	Qualitative	Helped students to look at grief in a different way, students found interacting with grieving family members to be rewarding Real nature of the simulation enhanced students' learning.
Dibartolo and Seldomridge. (2009) **USA**	To enhance student knowledge of the dying process and the complexity of human reactions when facing EOL situations	An assignment using Cinemeducation approach in which students were asked to view either of these two films: *Tuesdays with Morrie or Whose Life Is It Anyway?* and to answer some questions relating to the film as well as describe lessons learned from the film that could be used in their practice in similar situations	Not clear	Most students felt assignment was helpful in identifying pertinent issues about end of life care. The responses to the assignment questions submitted by students were good in quality and insight with grades ranging from A to D, and a majority with B. Students could identify the stages of grief.
Weismann G.V. (2011) **USA**	To examine effect of ENLEC communication module on first years ADN students self-efficacy in communication skills To determine if a specially prepared palliative care module and an embedded content course lead to positive attitude towards care of the dying patient	Lecture, group discussion, Role play Listening to a classmate describe a significant loss in his/her life, case study	Controlled pretest-posttest	Significant improvements in the intervention group on both the scores on the VAS and FATCOD. Also there was improvements in the controls group's score on the VAS and FATCOD, indicating both approaches are effective
Dobbin, E.H. (2011) **USA**	To assess the impact of an elective nursing course incorporating the ENLEC curriculum content on associate degree student nurses' attitudes towards death and care of the dying To evaluate the effect of an end-of-life module embedded in a larger course on the attitudes of a similar group of students.	Lecture with PowerPoint slides (for students in the intervention groups) supplemental text, visit to a hospice and funeral home Watching of the film 'Wit' (students in elective course), reference palliative care content of a medical-surgical book	Controlled pretest-posttest	Both content delivery methods were found to change students' attitude towards death to an extent. However, students who watched the film Wit recorded significant positive changes
Gilliland I (2011)	To examine the effect of a planned clinical experience	2 days hospice experience	pretest-posttest	Significant change in attitude. No significant

USA	with dying patients on student attitudes and self-perceived competencies in end-of-life care.			change in self-reported end of life care competencies
Bush T (2012) **Australia**	To determine if the completion of a palliative care elective aided nursing students in the clinical provision of palliative care	Lectures and end of life care simulation	Posttest-only	Students reported that the course was beneficial to their learning about end of life care and appreciated the inclusion of palliative care in their program
Eaton et al. (2012) **USA**	To explore the perceived influence of an end of life care simulation on students' learning in home health and hospice practicum setting	End of life care simulations and debriefing session	Descriptive Phenomenology	Students reported that gaining experience in a safe environment prior to practice placement had a positive impact
Moreland et al. (2012) **USA**	To evaluate the effect of a 15-minute simulation involving a terminally ill lung cancer patient on student nurses knowledge of end-of-life signs and symptoms and perceived self-efficacy	End of life care simulations and debriefing session	Mixed method	11% increase in overall knowledge and self-efficacy improved significantly post-simulation from 35.36 to 37.79 ($p = .05$). Students expressed difficulty with changing their perspectives from curing to caring for the dying client.
Fluharty et al. (2012) **USA**	To assess whether there will be an increase in students' end of life care knowledge, self-confidence in the care of the dying and self-reported communication skills in working with end of life patients after participating in an end of life care simulation	Voice over PowerPoint lecture prepared by an ENLEC Instructor, end of life care simulation experience, debriefing and guided reflection	Pretest-posttest	Students demonstrated significant increase in knowledge (from pretest mean of 7.98 to posttest mean of 9.15), self-confidence (mean of 6.88, SD 0.61) and self-reported communication skills (mean of 4.33, SD 0.56) in end of life care.
Pullis, (2013) **USA**	To prepare students to care for dying patients and their families.	End of life care orientation lecture and hospice clinical experience as part of a community health nursing course	Not clear	Students were able to demonstrate the: principles of pain and symptom management, ability to communicate the goals and philosophy of hospice care and to advocate for individuals at the end of life

3.10 Discussion and assessment of implications for curriculum development in resource poor countries

There seems to be some tension regarding whether or not palliative care should be taught as content embedded throughout the entire preregistration curriculum or as a discrete course. While Pullis (2013) states that the embedded content approach can facilitate the incorporation of palliative care contents into the curriculum without adding to an already extensive one, some authors argue that a discrete course is more beneficial, because it allows for better assimilation of material (Mallory, 2003; Arber, 2001). While there is evidence of the effectiveness of both approaches in improving student nurses' attitudes towards death and care of the dying (Dobbins, 2011), embedding palliative care content into other nursing courses or offering a discrete course as an elective might not give palliative care nursing education the attention it deserves. In addition, the lack of evidence of the effectiveness of a discrete course over the embedded content approach warrants more research.

Whether students should be exposed to palliative and end of life care content at an earlier or later stage of their nursing course remains unclear. While it is suggested that at an advanced stage students might have had some background knowledge which can facilitate their learning about palliative care (Mallory, 2003), earlier implementation might enhance students' understanding of the principles of palliative care and prevent them from developing misconceptions about palliative care during clinical practice experiences (Nicholl and Price, 2012; Mallory, 2003).

This seems to suggest that decisions about when to include palliative care education at the preregistration level should be informed by students' previous learning and clinical practice exposure.

This review reveals a lack of consistency in what preregistration student nurses are taught in palliative care, even when these courses have been implemented in nursing schools in the same country and/or using the same core curriculum. In addition, there continues to be inadequate evidence on the number of hours and period of time over which content should be distributed as had been observed by Arber in 2001.

There tends to be either more focus on clinical experience without adequate theoretical content or vice versa. Nurse educators ideally need to ensure that palliative care content taught at the preregistration level is in line with international and regional palliative care core curricula (APCA, 2012a; ELNEC 2012; EAPC, 2004). Nevertheless, it is acknowledged that contextual realities as well as epidemiological and demographic trends fuelling the need for palliative care can require certain content and teaching method amendments.

A mix of both didactic and experiential teaching and learning strategies, as well as the use of specialist and experienced palliative care lecturers have been presented as invaluable in enhancing students learning of palliative care contents. Furthermore, the relevance of allowing students opportunities to care for dying patients in supervised simulated and real life situations is highlighted, thus suggesting that theoretical contents without exposure to practice is inadequate.

Based on the studies reviewed, we might want to conclude that preregistration palliative care education is effective in improving student nurses' attitudes towards death and care of dying patients and their families. However, the predominant use of non-probability sampling methods, and self-rating evaluation instruments in these studies might have introduced some biases. In addition, variables like age, gender, previous death experience, and religious belief have been reported as predictors of attitude change (Frommelt, 2003; Mallory, 2003). Moreover, some studies without a control group might also have been affected by extraneous variables (Cohen, Manion, and Morrison, 2008). Although the use of small sample sizes, might have been beneficial to the educational approaches used, in avoiding the challenges of large group teaching in palliative care (Nicholl and Price, 2012), it tends to raise methodological issues relating to representativeness and generalizability of results.

While the review has provided some degree of evidence about the effectiveness of palliative care education on preregistration student nurses' competencies in palliative care, there seems to be no evidence of transfer of learning to clinical practice by these students, and what the facilitators and barriers to this transfer might be. There were equally no reports of the impacts of this education on patient care experiences. The lack of such evidence tends to blind us to any potential short or long term benefits that preregistration palliative care education might have on patients and their families.

Furthermore, the dearth of in-depth qualitative studies blinds us to the palliative care education experiences of preregistration students which can valuably inform the improvement of current educational strategies. These suggest an inadequate evaluation of the outcome of palliative care educational initiatives, and thus warranting further research.

Given that all the studies in this review were conducted in resource-rich countries, I shall examine the implication of these findings in resource-poor countries.

A) Course design and content

A discrete compulsory palliative care course for preregistration student nurses seems more suitable for resource-poor contexts, compared to embedding palliative care contents into other nursing speciality courses or providing it as an elective (WHO, 2011a). This is because there are only a few specialist palliative care professionals and institutions in resource-poor contexts (Mutto et al., 2012; Mwangi-Powell and Dix, 2011). In addition, the huge burden of HIV/AIDS (WHO, 2012a), cancer and other non-communicable chronic diseases in these contexts (WHO, 2011a), coupled with the fact that most of palliative care in this context is often delivered by general nurses in hospitals and in people’s homes (Payne et al., 2009) requires every nurse to be educated in palliative care. This can ensure that every dying person and their families have access to basic palliative care, which has been termed a basic human right (APCA, 2010a). The adoption of a discrete compulsory course however needs to be complemented with strict support to ease any emotional burdens that might be experienced by participating students. With regards to determining content to be taught, a review of regional and/or international palliative care core curricula documents, and an examination of local demographic and epidemiologic challenges, as well as social and cultural realities can inform the development of an appropriate content. Like has been observed by Spruyt, MacLeod and Hudson (2007:67), "creative and culturally specific responses to the palliative care education challenge are more likely to succeed".

B) Educational methods

Most of the proposed educational strategies would seem applicable in resource-poor countries. However, the challenge might be in the availability of specialist palliative care units for placement learning, affordable palliative care nursing textbooks and journals (Gwyther, 2007; Davies and Higginson, 2004) as well as funds to develop and implement high fidelity patient simulations. Nevertheless, in the absence of hospices and/or specialist palliative care hospital units, students can be exposed to meaningful learning opportunities in medical-surgical, paediatric and intensive care units in local hospitals and health centres, that provide care to patients with life-threatening illnesses (Payne et al., 2009; Murray et al., 2005).

C) Expected outcomes and evaluation

In designing course objectives and evaluation strategies, there is need to address the cognitive, affective and psychomotor domains of learning. This will enhance understanding of how palliative care education impacts on student nurses' knowledge, altitudes and skills (Cassidy, 2009). It is also crucial that strategies that evaluate both the process and outcomes of education are considered (Arber, 2001). Drawing from Kirkpatrick's (1967) framework of training program evaluation and in keeping with ongoing theory to practice transfer debates

(Lauder et al., 2008), a comprehensive evaluation of a preregistration palliative care nursing program should ascertain both students' satisfaction with and learning from the program and their ability to translate this knowledge into behaviour that can make a positive difference to patients and their families.

D) Course faculty

Another major challenge to resource-poor countries is the lack of availability of specialist and experienced palliative care lecturers. Where nurses who have had specialist palliative care education or have attended 'train the trainer' courses and palliative care conferences are available, they could possibly serve as course faculty. However, where there are no formally trained professionals, it could be argued, based on the experiential (Kolb, 1984), and the adult learning theories (Knowles, 1984) that nurse educators and clinicians with invaluable experiences in the care of patients with life-threatening conditions and dying persons can also serve as facilitators of preregistration student nurses learning in palliative care, using core palliative care textbooks, manuals and good quality internet based palliative care education resources. This strategy however requires careful consideration to ensure that students are engaged with appropriate palliative care information and evidence based practice. In addition, with the availability of funding, expert faculty could be invited from overseas. Still, the challenge as observed by Goh and Shaw (2007) might be the faculty's lack of understanding of the cultural and contextual realities which might lead to students being oriented to practices which are unavailable or inappropriate in their context.

3.11 Summary of gaps identified from this review

Evaluative research in preregistration palliative care education is limited, but shows that improvements in attitudes towards care of dying patients and their families is achievable. Although attitudinal competencies are important in palliative care nursing, they are insufficient without adequate palliative care knowledge and psychomotor skills (Cassidy, 2009; Cowan et al., 2005). There is thus need for more research to enhance understanding of how palliative care education impact on nursing students' knowledge and skills.

Most of the studies with positive impacts utilised self-rating instruments, which may be deficient as a measure of behavioural competence (Lauder et al., 2008). Moreover, Kwekkeboom et al., 2006 who utilised an objective instrument to assess palliative care knowledge did not record a significant change. This suggests the need to use both objective and subjective rating scales to examine how they resonate.

Most of the existing evaluations of this education have adopted pure quasi-experimental designs, arguably because of the 'real world' nature of the interventions and consequent unfeasibility of true-experiments (Dobbins, 2011; Barrere et al., 2008; Thompson, 2005; Mallory, 2003). Nevertheless, from an experimental research standpoint, these evaluations are limited in their ability to withstand rigorous scientific review, due to the lack of randomisation and control of treatment (Cohen et al., 2008). On the other hand, qualitative evaluation strategies, through which stakeholders' views can be accessed, with a possibility of deeper understanding and richer descriptions

(Benfield et al., 2006), have also been used, although less frequently. Moreover, there is little research which combines the two approaches. This suggests a need for research which employs a combination of methods to enhance a comprehensive understanding of the effectiveness of preregistration palliative care nursing education.

While the review has provided some degree of evidence about the effectiveness of palliative care education on preregistration nursing students' competencies in palliative care, there seems to be no evidence of transfer of learning to clinical practice by these students, and what the facilitators and barriers to this transfer might be. There were equally no reports of the impacts of this education on patient care experiences. The lack of such evidence tends to blind us to any potential short or long term benefits that preregistration palliative care education might have on patients and their families.

These studies though included students from a wide range of culture, were mostly conducted in resource-rich contexts, especially the USA. The absence of studies with nursing students in resource constrained countries limits the generalizability of these findings. It is possible that cultural and other contextual factors in resource poor-countries might open a different dimension to this discourse.

3.12 Conclusion

This modified systematic review about preregistration palliative care education has revealed that palliative care education can be effective in improving nursing students' attitudes towards care of dying patients and their family. At this level palliative care education is delivered either as a discrete course or as embedded contents in other specialty nursing courses, using both didactic and experiential educational strategies, to students who are either at an earlier or advanced stage of their nursing program. These educational strategies, which have been tried mostly in resource-rich countries, need to be adapted for resource-poor countries to bridge barriers such as the lack of specialist palliative care practitioners who can serve as educators, 'special' palliative care units in hospitals and community health settings for experiential learning, and palliative care textbooks, journal and online educational materials.

The findings in this chapter have pointed to some gaps that the present study hopes to fill. These gaps informed the aims and objectives of the current study, and these are presented in the next chapter. Moreover, based on this review's findings, a 30 hours classroom based optional course in palliative care for preregistration nursing students in Cameroon, and the course evaluation methodology was developed. The next chapter discusses the methodology that was used to develop, pilot, and evaluate the palliative care course.

CHAPTER 4: METHODOLOGY AND METHODS

4.1 Introduction

This chapter describes and discusses the choice of research methodology and the methods of data collection and analysis used in the study. The overarching aim of this study was to develop, pilot and evaluate the impact of a palliative care course on Cameroonian preregistration nursing students' palliative care knowledge and self-perceived competence and confidence in palliative care provision, using Kirkpatrick's (1967) framework for training programme evaluation. A longitudinal quasi-experimental single group pretest-posttest design, incorporating both quantitative and qualitative methods of data collection and analysis was used.

This chapter firstly presents the research aims and objectives, and the philosophical and methodological underpinnings of the study. This is followed by a discussion on how educational interventions are evaluated as well as the evaluation framework used in the current study. Discussions about how the choice for the research design was arrived at and the strengths and weaknesses of the chosen design are then presented. This is followed by details of the study setting, target population and strategy used to access and recruit participants. The phases of the research project, including the steps used to develop the palliative care course, and the quantitative and qualitative evaluation strategies are then described. The challenges encountered and how they were overcome are also presented.

This chapter closes with a discussion about the data management and analysis strategies.

4.2 Research aims

This aim of this study was to:

- develop, pilot and evaluate the impact of a palliative care course on Cameroonian preregistration nursing students' palliative care knowledge and self-perceived competence and confidence in palliative care provision, using Kirkpatrick's (1967) framework for training programme evaluation.
- assess the acceptability of this course and to identify possible implementation challenges to inform future palliative care curriculum initiatives in Cameroon.

4.3 Research questions

Based on the gaps identified from the literature, the following research questions were derived:

- What are the needs of Cameroonian preregistration nursing students for palliative care education and what should be the components of a palliative care course for this student group?
- Will nursing students have an improvement in their palliative care knowledge and self-perceived competence and confidence in palliative care provision immediately after the completion of a palliative care course?

- Will nursing students apply their knowledge and skills from this course in the care of patients who need palliative care during placement? What factors might facilitate or prevent its use?
- How do these students evaluate their experience of attending this course and what are their perceptions regarding its strengths and weaknesses and how it can be improved?
- What strategies are needed and what are the challenges of implementing such education in a resource constrained context?

4.4Philosophical and methodological considerations

Evaluating an educational program entails engaging in a logical and systematic process to make informed decisions about the value/worth of the program and whether or not the program accomplished its goal, in order to monitor and improve the quality and effectiveness of the program (Frye and Hemmer, 2012; Frey et al., 2012). There are two types of evaluation that can be used to evaluate educational programs, formative and summative evaluation. Formative evaluations, often conducted during program implementation, are for exploratory purposes and seek to influence or promote change. Summative evaluations, which are often conducted at the end of a program, are often used for explanatory purposes including establishing impact and/or causality (Lambert, 2011; Robson, 2010; Craig et al., 2008). The evaluation of an educational program are at different levels often aimed at students' reactions and learning, instructional materials, transfer of learning, and return on investment, among others (Slavin, 2008). These show that educational program evaluation stems from a theoretical perspective that requires both quantitative and qualitative measures. For instance, while quantitative measures are needed to rank students, demonstrate progression, and/or justify impact and return on investment to government and policy makers in educational systems, learners' perception of instruction as well as evaluative feedback of their experiences are an important instrument in educational program development and change (Coe et al., 2012; Lambert, 2011; Ranasinghe et al., 2011; Robson, 2010; Slavin, 2008).

Formal education takes place in socially constructed institutions, and its evaluation is a collaborative process, involving different people with different roles and responsibilities. Thus the implementation and evaluation of an educational program, at different levels, entail interactions between educators, students, instructional situations, technologies, and the wider educational institution (Frey et al., 2012; Robson, 2010; Kern et al, 1998). An understanding of the effectiveness of an educational program therefore requires understanding of both content and context related factors like: training goals, trainers, trainees, and training situations. This is important because these potential influencing factors, can affect the education process, how students will generally perceive it, and thus its impact. This suggests that the effectiveness of an educational program is a social construction, and studying it is best suited to research established within a paradigm that aims to understand social life.

The underpinning philosophical stance in this study therefore is pragmatism. Pragmatism is a stance that '…orients itself toward solving practical problems in the "real world" (Feilzer, 2010, p.8). Pragmatism takes a practical approach to research problems and rejects the idea that realist and relativist approaches are incommensurable. It recognizes a 'real world' out there as well as the fact that we can all perceive it differently. So it seeks to design studies which enable study of the real world as well as how people perceive and act towards it. The pragmatist paradigm is not committed to one specific theory or method, and thus is interested in research of real world problems and what combination of research methods can best shed light on the problem (Tashakkori & Teddlie, 2010; Creswell, 2009; Onwuegbuzie and Leech, 2005). This implies active thinking and creativity by the researcher, as was the case in this study.

Generally, pragmatists view the social world as based on social interaction. In the context of this, interpretations of what is happening in the social world are not viewed as 'objective' or 'true', but rather subjective and relative (Feilzer, 2010). This means that research findings from a pragmatist perspective maybe not be generalisable to other populations, but can inform practices in a similar context (Teddlie & Tashakkori, 2009). In this light, I feel that palliative care education and its benefits are to some extent specific to the context in which it arises and therefore examining it through this lens makes it possible to (re)construct palliative care education strategies and impact in Cameroon.

Thus the broad intent of the evaluation in this study was not to 'mirror reality' or present an 'absolute truth' (Guba and Lincoln, 2005), but rather to attempt an understanding of useful, context specific strategies for the education and evaluation of preregistration nurses in palliative care, in a resource poor context like Cameroon. It was also to find out what the "consequences" of this education are, in terms of its impact on students' palliative care knowledge and self-perceived competence and confidence in palliative care provision, as well as students' ability to transfer learning to practice in the care of patients with palliative care needs. In addition, given that I was the course developer, course implementation lead and evaluator, and considering the personal experiences in the care of the dying and in nursing education that I bring into this study, I think that I cannot be detached from what is observed. The strategies and outcomes of this study could be said to be constructed by me (the researcher), the students who took part in the study, the course facilitators and the wider context in which the study was conducted. Thus the strategies used in this study are open to reforms where necessary. Moreover, the study findings are not generalizable beyond the study setting but could influence palliative care educational practices in Cameroon as a whole, and possibly other resource-poor contexts.

4.5 The evaluation framework used in this study

The quasi-experimental single group pretest/posttest evaluation design was used in conjunction with the Kirkpatrick's framework for training program evaluation to evaluate the palliative care course in this study. Kirkpatrick’s framework is a widely used model in evaluating educational interventions (Lambert, 2011) and is described by Hedges and Wee (2014) as providing a sound structure for the evaluation of educational endeavours in palliative care. It was selected for its unique focus on evaluating the outcomes of interventions beyond learners’ satisfaction. It consists of four hierarchical evaluation levels including: (1) Reaction; (2) Learning; (3) Behavior; and (4) Results (Lambert, 2011). The application of this framework in the current study is presented on table 4 below.

Table 4: Kirkpatrick's (1967) framework for training grogram evaluation and its application in this study

Level	**Evaluation focus of this level**	**Applicable research question in the current study**	**How it was assessed in the current study**
Level 1: Reaction	Participants' feeling about/reaction to the training	How do students evaluate their experience of attending this course and what are their perceptions regarding its strengths and weaknesses and how it can be improved?	Focus groups
Level 2: Learning	Participants' learning from the training	Will student nurses have an improvement in their palliative care knowledge and self-perceived competence and confidence in palliative care provision immediately after the completion of a palliative care course?	Pre/posttest of palliative care knowledge and self-perceived competence Focus groups
Level 3: Behaviour	Change in participants' job performance after training	Will students apply their knowledge and skills from this course in the care of patients who need palliative care during placement? What factors might facilitate or prevent its use?	Focus groups and individual critical incident interviews
Level 4: Results	system wide or organizational impact in terms of reduced cost, increased quality of work	Not applicable in this study	Not applicable in this study

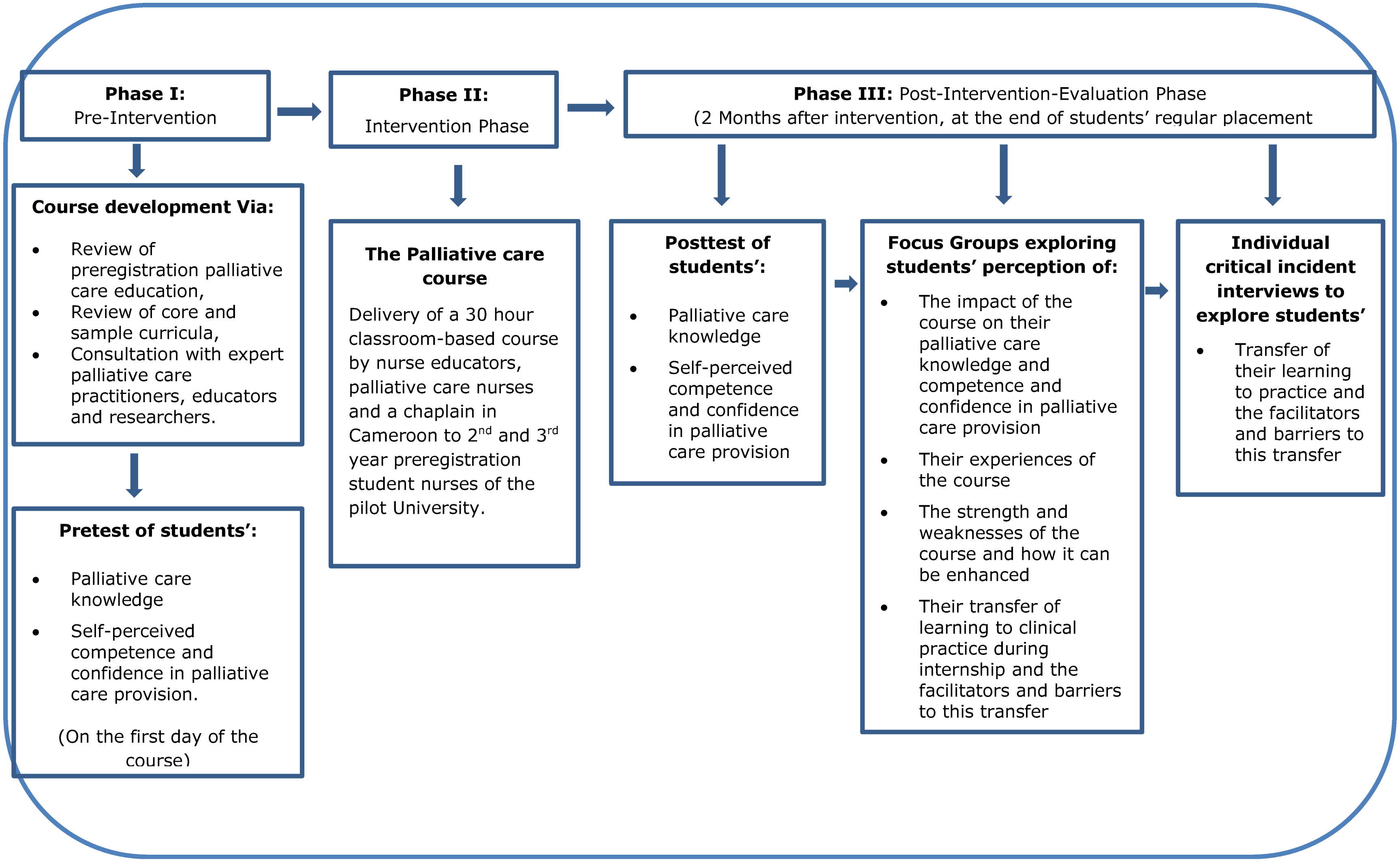
4.6 The research design

This study is situated within the World Health Organisation’s public health model for palliative care (Stjernsward et al., 2007), which has been presented in chapter 2, as an overarching theoretical framework. It employed a longitudinal quasi-experimental study design, specifically, the single group pretest posttest design, incorporating both quantitative and qualitative methods of data collection and analysis. This study was conducted in three phases: course development; course implementation/piloting; and course evaluation.

In the first phase, the palliative care course was developed via: an in-depth review of the literature about palliative care education for preregistration nursing students, review of some palliative care curricula, informal interviews with nurse educators and palliative care nurses in Cameroon, and consultations with palliative care experts in the UK. This phase ended on the first day of course implementation, with a pretest survey of students’ palliative care knowledge and self-perceived competence and confidence in palliative care provision.

In the second phase, the course was delivered to 2nd and 3rd year nursing students in one University in Cameroon, by nurse educators, a chaplain, and specialist palliative care nurses in Cameroon. The course was a 30 hours classroom based palliative care course, underpinned by the experiential learning theory. After completing the course, students undertook their regular clinical placement, in medical-surgical care settings, 2 days in a week for two months. It was hoped that during this clinical placement students will encounter patients with life-threatening/chronic conditions and or dying patients.

In the third phase, the course was evaluated using both quantitative and qualitative data. In the first place, a posttest survey was conducted to evaluate the impact of the course on students' palliative care knowledge and self-perceived competence and confidence in palliative care provision. Secondly, focus groups were conducted with students who completed the course to explore their experiences of the course, their perspective of its strengths and weaknesses, and whether they were able to transfer their knowledge and skills from this course to practice, in the care of patients who need palliative care, during placement. Thirdly, individual critical incident interviews were also conducted, with students who encountered patients with life-threatening and chronic conditions and/or dying patients during placement to explore the transfer of their learning to practice (Figure 5).



Phase I: Pre-Intervention

Course development Via:

- Review of preregistration palliative care education,
- Review of core and sample curricula,
- Consultation with expert palliative care practitioners, educators and researchers.

Pretest of students':

- Palliative care knowledge
- Self-perceived competence and confidence in palliative care provision.

(On the first day of the course)

Phase II: Intervention Phase

The Palliative care course

Delivery of a 30 hour classroom-based course by nurse educators, palliative care nurses and a chaplain in Cameroon to 2nd and 3rd year preregistration student nurses of the pilot University.

Phase III: Post-Intervention-Evaluation Phase
(2 Months after intervention, at the end of students' regular placement

Posttest of students':

- Palliative care knowledge
- Self-perceived competence and confidence in palliative care provision

Focus Groups exploring students' perception of:

- The impact of the course on their palliative care knowledge and competence and confidence in palliative care provision
- Their experiences of the course
- The strength and weaknesses of the course and how it can be enhanced
- Their transfer of learning to clinical practice during internship and the facilitators and barriers to this transfer

Individual critical incident interviews to explore students'

- Transfer of their learning to practice and the facilitators and barriers to this transfer

Figure 5: Diagrammatic presentation of the research design

4.6.1 Design considerations

Experimental designs are meaningful in statistically establishing causal relationships (Nelson et al., 2010). They are based on the premise that knowledge can be objectively discovered and verified through direct observations or measurements (Mertens, 2005). Experimental designs adhere to strict randomisation and control (Polit and Beck, 2008), but when these are inappropriate or unethical, quasi-experimental designs are considered suitable (Shadish, Cook and Campbell, 2002). However, they are weaker and can only provide supporting evidence of association between a dependent and an independent variable (Nelson et al., 2010; Shadish, et al., 2002). This is due to the lack randomisation into study conditions, and consequently lack of unit equivalence, which opens room for plausible alternative explanation of outcomes (Steiner et al., 2009; Shadish et al., 2002). Although the limitations of quasi-experimental designs in deducing causal relationships exists, one could argue that, in studies that evaluate educational interventions, quasi-experiments are an improvement to true experiments since educational phenomenon cannot be studied under laboratory conditions, given the ethical and contextual issues that typify educational institutions (Shadish et al., 2002). This is evident in the predominant use of quasi-experimental designs in educational program evaluation in general (Steiner et al., 2009; Slavin, 2008) and in the evaluation of palliative care educational interventions in particular (Ingleton and Davies, 2007).

Some quasi-experimental designs that could be used for this study include the pretest/postest non-equivalent group and time series designs. However, an adequately controlled non-equivalent group design should avoid contamination effects in the control group, while the time series design requires repeated observations before and after the intervention in order to establish a trend (Polgar and Thomas, 2008; Shadish et al., 2002). These conditions were not feasible for this study based on the reasons explained below:

Firstly it would have been fundamentally unethical to deny some students the opportunity of participating in the palliative care educational intervention, in order to fulfil the randomisation requirement demanded by experimental designs. This is so given the relevance of this education to their practice as nurses and consequently to the quality of care received by dying patients and their families. Although it is suggested that the delayed treatment approach, which is the delivery of the same intervention to the control group at the end of the study can be a way to overcome this 'unfairness', it can be difficult to do pragmatically (Polit and Beck, 2008). It can pose resource and logistical demands that were not feasible in the current study. The implementation of a delayed treatment strategy would have been challenging for me, a single researcher, with limited time frame, and the constraints of the academic timetable of the institution where the study was conducted.

Secondly, any attempt to create a comparison group would possibly not have been worthwhile, given the likelihood for the diffusion of the intervention by the students in the intervention group. Primarily, the reported study was a "real world" (Feilzer, 2010, p.10) study, conducted in a setting which is geographically and socially closed. Thus the prevention of interaction between an intervention and a comparison group might have been impractical. In addition, the intervention was an optional course (which is not normally the case with courses in the nursing department of the pilot University, as all courses are compulsory), fitted into an already existing program timetable, with visiting palliative care nurse clinicians as course facilitators. Moreover, the palliative care textbooks and manuals that were made available for use by participants during the entire period of the intervention might as well have inevitably created inquisitive exchanges between students, with a resultant contamination of any comparison group. The possibility of using a control group from another nurse training institution was considered, but excluded because of lack of comparability in curriculum and clinical exposures for the nursing students.

Thirdly, a good time series design would have warranted at least three data collection points both before and after the course, to establish a trend. This was not feasible given the constraints of the regular timetable of the institution where the study was conducted.

In choosing the single group pretest posttest design, I recognised that other changes occurring over the same time could influence changes in students' palliative care knowledge and self-perceived competence and confidence in palliative care provision scores over time. But, study purpose vis-a-vis the constraints of the field situation, described above, warranted such a design.

As a strategy to overcome the flaws of the single group pretest posttest design, I made a choice to use both quantitative and qualitative methods of data collection and analysis, to provide comparative and complementary information as well as a context for the findings. While the quantitative method was to enable the collection of data that could statistically provide evidence of any association between the intervention and registered effects, the qualitative method was meant to explore and access participants' experiences and perspectives and possibly unpack the 'why' and 'how' of any registered effects(s) (Craig et al., 2008). By rigorously using both methods the study seemed to have strengthened its internal validity and credibility (Padgett, 2012) and make possible much richer and reliable results.

4.7 Methods of data collection

I used three methods to collect data in this study. These methods were selected on the basis of their strengths, type of data needed, and practicalities of use, as explain in the paragraphs that follow.

4.7.1 Pretest and posttest survey

I used a pretest and posttest survey to assess the impact of the course on students' palliative care knowledge. An advantage of a pretest and posttest assessment is that it can be used to enhance understanding of what change, particularly in factual knowledge or skills sets, that could be credited to a training program (Gouldthorpe and Israel, 2013). The prestest and posttest model was also to assess students' self-perceived competence and confidence in palliative care provision. Nevertheless, the possibility of self-report bias existed, where students could wish to please the researcher and answer in ways they consider right rather than giving a true self-assessment of their competencies. Moreover, students could overrate or underrate their competencies, resulting in a response shift bias (Gouldthorpe and Israel, 2013). This method of data collection was also limited in that it could not be used to determine whether course participants will be able to implement their learning on the job (Dugard and Todman, 1995).

I designed a questionnaire (appendix 1) composing of three subscales (table 5) to collect the pretest and posttest data. These subscales included the: demographic information subscale, palliative care knowledge subscale and the self-perceived competence and confidence in palliative care subscale. The items on the subscales were selected and/or designed, taking into consideration the aims of the palliative care course in this study and the research questions.

The demographic questionnaire was to collect information on participants' characteristics. It consisted of both closed and open-ended questions, and sought details of students' level on their nursing course, university registration number, gender, religious affiliation, previous encounter with a dying person and previous education about palliative care. The questions requesting information on students' previous encounters with a dying person and previous education about palliative care were open-ended, while the rest of the other items were closed. I requested students' university registration numbers for identification purposes during the course, and to facilitate matching of the individual student's pretest and posttest questionnaires.

The validated Palliative Care Quiz for Nursing (PCQN) (Ross et al., 1996) (appendix 1) was used to assess change in students' palliative care knowledge. This instrument is described below. I selected this instrument for its adequate psychometric properties and its use in a comparative group of student nurses in other studies (Frey et al., 2013; Kwekkeboom et al., 2006; Arber, 2001). It also reflected the aims and objectives of the training course and could be administered for 20 minutes.

The PCQN is a 20-item; true, false and 'I don't know' test instrument that can be used for the assessment of knowledge in palliative care nursing. The partitioning of this instrument is as described in box 2**.** I asked participants in this study to read each question on this subscale and to circle the correct option for every question. I changed the drug 'Demerol' used in question 16 of the original scale to 'Tramadol', which is also an opioid analgesic for the treatment of moderate to severe pain, more commonly used in Cameroon. However, this change was not expected to have any effect on the validity and reliability of the PCQN instrument.

The Evaluation Toolkit designed to measure competence and confidence levels before and after an end of life care training was adapted for use in this study. This toolkit is still under development by the main authors, in terms of establishing reliability and validity. In the last validation report it was documented that the validity testing is positive (Chady et al., 2012). It is a Likert-type, five point scale (strongly disagree, disagree, neutral, agree, strongly agree), aimed at evaluating outcome in end of life care learning events in five core competencies: communication skills, assessment and care planning, symptom management, advance care planning and end of life care values. This questionnaire was developed based on the common core competences for palliative and end of life care developed by the National Council for Palliative Care (NCPC) in the UK. It has been used by the lead author and other educators in the evaluation of end of life learning events for qualified nurses in the UK (Signorini, 2011). The adapted version consisted of 20 items (appendix 1), after contextually irrelevant questions had been eliminated from the original scale. For example, questions on the use of the Liverpool Care Pathway and the Gold Standard Framework were removed from the questionnaire since they were not applicable to the Cameroonian context. I asked participants of this study to read the sentence and to circle the option that best described how they rated their competence and confidence in the various aspect of palliative care. Thus they could indicate: strongly disagree, disagree, neutral, agree, or strongly agree for any individual item on this subscale. I did not measure the statistical reliability and validity of this tool after modifications. This might have impacted negatively on study findings.

Box 2: Partitioning of the PCQN

The PCQN scale is partitioned into core themes including:

- Philosophy and principles of palliative care (questions 1, 9, 12 and 17);
- Pain and symptom management (Questions 2-4, 6-8, 10, 13-16, 18 and 20) and;
- Psychosocial and spiritual care of patients and their families (Questions 5, 11 and 19);

N:B This partitioning according to Ross et al (1996) is to facilitate identification and summarising of participant knowledge strengths and weaknesses.

Table 5: Scales used for the pretest and posttest

Measure	Subscale	Scoring System	Number of items	Validity and reliability
Knowledge	PCQN	true, false and 'I don't know', Wrong responses and 'I don't know' are considered incorrect answers	20	Internal consistency of 0.78, Correlation coefficient of 0.56 for test-retest reliability
Self-perceived Competence and Confidence	Evaluation Toolkit (Adapted)	1-5 with higher scores indicate a high rating of self-perceived competence and confidence	20	In process of validation

4.7.2 Focus groups

I used focus groups primarily to evaluate the palliative care course as a whole. However, a number of questions investigated students' transfer of their learning to practice during placement (appendix 8). It also helped in the identification of students who had experienced caring for someone approaching the end of life in practice. Focus groups have been described as a guided group discussion to obtain qualitative data, from many people at the same time (Robson, 2010). Given that the students studied together during the palliative care course, and that student often study in groups, I considered the focus group method a more effective, realistic and natural way to access diverse course experiences and evaluations. I also felt I could capture deeper and richer information, and more economically than individual interviews (Kress and Shoffner 2007; Krueger and Casey, 2009).

I found this method to be useful in eliciting constructive evaluative feedback about an educational program from participants (Coe et al., 2012; Israel and Galindo-Gonzalez, 2011; Krueger and Casey, 2009). Moreover, focus groups have the potential to "yield rich qualitative information which can be used to identify what should be done, what worked and what did not, and why", regarding a program (Israel and Galindo-Gonzalez, 2011, p.1). In a focus group, participants can stimulate one another in a conversation which can lead to exchange of opinions, experiences and reactions on the issue under investigation (Payne, 2007; Kress and Shoffner, 2007; Bryman, 2004). These exchanges according to Bryman (2004) can lead to the generation of information that might not have possibly been gleaned from individual interviews, thus leading to a co-construction of meaning between participants (Goodman and Evans, 2010).

4.7.3 Semi-structured individual critical incident interviews

I used individual interviews to explore in-depth students' transfer of their palliative care learning to practice in the care of patients and their families who were approaching the end of life. These interviews were conducted using the critical incident technique developed by Flanagan in 1954. Flanagan (1954) describes this technique as "a set of procedures for collecting direct observations of human behavior in such a way as to facilitate their potential usefulness in solving practical problems (p327). With this approach, data about any human activity can be collected and analyzed. It can be used to identify effective or ineffective behaviors in terms of achieving the aims of an activity. This technique has been widely used in nursing research to study issues pertaining to nursing practice and management, as well as nursing education and patient care (Bradbury-Jones and Tranter, 2008). According to Flanagan a critical incident is 'any observable human activity that is sufficiently complete in itself to allow inferences and predictions to be made about the person performing the act' (p372). Thus, this technique involves the study of significant instances of a specific activity, as experienced or observed by the research participants (Hughes, 2007). In addition, as Narayanasamy and Owens, (2001) puts it, 'it brings credence to practice because the technique is largely concerned with the real, rather than the abstract world, and at the same time it acknowledges the constraints and limitations that we encounter in the world in which we live and work' (Narayanasamy and Owens, 2001 p.448).

Individual interviews or direct observations of students carrying out practical task are considered the preferred means for data collection in critical incident studies (Bradbury-Jones & Tranter 2008). FitzGerald et al. (2008) however claim that 'the one-on-one interview conducted soon after the incidents occur is the gold standard' (p.303). I used a face-to-face retrospective critical incident interviewing technique to elicit examples of students' experiences implementing their learning from the palliative care course at the point-of-care. I felt direct observations or interviewing immediately after the incident would have been practically challenging and hindered by the constraints of the clinical setting. Firstly I was a lone researcher and observing and assessing students in the various units (medical, surgical, hemodialysis, pediatric and out-patient) where they were having placements would have been challenging. Secondly, the clinical mentors who would have been employed for this assessment were neither knowledgeable about the course nor about palliative care, based on my knowledge of the context. This required that they be trained on these issues. Moreover, the placement in this study was not palliative care specific and students had certain objectives for this placement stipulated by their nursing course. This required a certain degree of ingenuity in looking for practical, yet effective, strategies to studying students' transfer of their learning to practice. I took a pragmatic decision to use the individual critical incident interview (CIT) technique to overcome the above challenges.

Critical incidents in this study were considered episodes when students encountered patients and their families with palliative care needs. The critical behaviours were the negative or positive attitudes to this care as presented in students' actions and feelings. Thus I did not only look at what students used their knowledge in practice for, but how they used it. I allowed students to narrate as many incidents, relating to the transfer of their palliative care learning in practice, as they could remember. I did not consider incidents of students with dying patients or those with life-threatening conditions prior to the course. Although it could be argued that the retrospective critical interviews used in this study could result in distorted perceptions and subconscious editing of the incidents (Schluter et al., 2008), or that memory could be imprecise or incidences might be unreported, like Sharoff (2008) and FitzGerald et al. (2008) puts it, I reason that researchers should be 'confident in the ability of participants to tell their story' (Sharoff, 2008 p306). Nevertheless, I conducted these interviews not long after the incidents had taken place (immediately after students had completed their placement), to facilitate good memory and hence ensure high quality data collection (FitzGerald et al., 2008).

The actual implementation of these methods in this study is described in details in sections 5.12.

4.8 The study setting

This study was conducted in one University in Cameroon. This University offers a rich portfolio of over 80 degree programs at the Bachelor's, Master's and Doctoral levels and is made of seven faculties. The Faculty of Health Sciences offers Bachelors degree programs in Nursing, Medical Laboratory Sciences and Medicine.

The Bachelors of Nursing Science degree program is a four year program which aims at preparing competent nurses who can respond to changing healthcare needs, in complex healthcare environments. This program recruits 40 students every academic year through a competitive government entrance examination. In the first year, students are taught interdisciplinary basic science and health science courses. In the second year, they are introduced to nursing science and fundamentals of nursing courses. During the third year, students take specialty courses like medico-surgical, paediatric, maternal and child health, and mental health nursing. Second and third year students are provided with clinical placement during the first and second semesters. The fourth year is a clinical practice and dissertation year, during which students rotate on a monthly basis through several nursing specialty areas in university teaching hospitals, health centers and communities in three different regions in Cameroon.

4.9 The study population

The study population consisted of preregistration student nurses of the pilot University. Of the approximately 37 nurse training schools in Cameroon, this University was purposively selected because it serves as the mentoring institution for most of these schools. Conducting the study in this University was seen as giving it more credibility and increasing the likelihood that the findings will inform palliative care nursing education, practice and research in Cameroon. It was equally for pragmatic reasons; the researcher, being a member of staff of this University stood a better chance of gaining permission to implement such training with the students as well as gaining access to educational resources available to staff and students like the classroom and projector, and other educational facilities on campus.

4.9.1 Description of study participants

Second and third year nursing students were recruited for the study. This group was purposively selected because they were judged to have relevant clinical practice experiences with patients in need of palliative care thus facilitating the use of the experiential learning strategy. Compared to fourth year students, the other target group that could have been considered, these students were on campus for appropriate periods of time and timetabling of the new course could be adequately managed. These two classes, consisting of 83 students, were both included to facilitate the recruitment of a sample size appropriate for statistical calculations to detection of any impacts of the intervention.

4.9.2 Inclusion criteria

To be eligible for the study, participants had to:

- Be a preregistration nursing student of the pilot University,

- Be in the second/third year,
- Consent to participate,
- Agree to participate during entire implementation.

4.10 Sample size, composition and sampling strategy

4.10.1 Outcome measures

The primary outcome measure in this study was palliative care knowledge. This measure was chosen on the basis of the gaps identified in the literature and the need to provide students with the evidence base for their practice. Thus the evaluation at this level was to understand whether a 30 hour classroom based palliative care course, underpinned by the experiential learning theory and delivered by nurse educators and palliative care trained nurses in Cameroon could improve students' palliative care knowledge.

Arguably, improved knowledge can lead to improved self-efficacy and practice (Adriaansen and Van Achterberg, 2008). Self-efficacy according to Bandura (1997) involves the belief of an individual in his/her capabilities to perform at a desired level. Thus an individual's degree of self-efficacy can influence his/her practice (Adriaansen and Van Achterberg, 2008). In consideration of these and given that this study also had to explore students' use of their knowledge in practice and the facilitators and barriers to it, self-perceived competence and confidence in palliative care provision was selected as a secondary outcome measure.

4.10.2 Sample size and sampling strategy for the pretest posttest survey

The primary outcome measure, palliative care knowledge, was assessed using the Palliative Care Quiz for Nursing (PCQN) which is a 20 item questionnaire and has a maximum score of 20. Based on previous studies (Arber, 2001; Ross et al. 1996), a baseline mean of 4 and a difference of 6 (50% increase, standard deviation of 10) in before and after scores were assumed. Using a P. value of 0.05 to determine a statistically significant result, 50 students were required to give 98% power to find this difference. However, if a smaller difference of 4 was to be registered instead, 50 students will have given 80% power to find this difference. Based on this statistical analysis, my initial plan was to recruit 70 students, to allow for adequate power to avoid a type two error and to allow for any attrition. However, since course registration was going on simultaneously in the various classes as explained below, 73 students were already registered for the course at the time when I asked the student class leaders to stop the registration process. 69 students started the course and 64 attended all sessions of the course.

Student volunteers were invited to participate in the intervention and pretest/posttest evaluations, in order to avoid coercion. This means that students who were willing to participate in the course were voluntarily registered for it and they voluntarily filled the pretest and posttest questionnaires. Volunteers however might have certain characteristics that may influence the variables under investigation (Procter et al., 2010). This strategy was however the most acceptable one to recruit students for the course while minimising cohesion. However non-probability sampling methods are limited in that they may select a non-representative sample (Cohen et al., 2008). While purposive sampling is dependent on the subjective judgement of the researcher and may be prone to researcher bias, it is important in selecting a sample that possesses the characteristics needed to answer the research questions. Volunteers however might have certain characteristics that may influence the variables under investigation (Procter et al., 2010). This was considered a potential weakness and might limit the extent to which generations will be made. Notwithstanding, in using reflexivity I might have ensured appropriate sampling and minimise any personal biases (Cohen et al., 2008).

4.10.3 Sample size and sampling strategy for the focus groups

Three focus group interviews were conducted and deemed appropriate in the evaluation of the course in this study. The existing methodological literature so far does not prescribe any number of focus groups that is appropriate for a program evaluation. However, researchers are of the view that at least two focus groups should be conducted, if an effective program evaluation is to be achieved, with valid results (Israel and Galindo-Gonzalez, 2011). On the other hand however, Bryman (2004) argues that the theoretical saturation strategy often used by grounded theory researchers could be employed to obtain a sample size in focus group research. Implying that interviews are conducted to the point where comments and patterns begin to repeat and no new information generated. Nevertheless, the theory saturation strategy was not employed in this study to avoid the collection of large amounts of data that might have increased the complexity of data analysis. It might also just have been a waste of time and resources as no new information may have been generated. In addition, from a pragmatic perspective, the feasibility of recruiting study participants influenced decisions about the number of focus group interviews during the study (Israel and Galindo-Gonzalez; 2011). Due to the unanticipated changes to the academic timetable of the institution where the research was conducted, I adjusted the initial research timetable and thus the post-intervention evaluation focus groups almost coincided with students' second semester examinations. This made the recruitment of students for the interviews challenging, as some sampled students turned down the invitation to participate on the basis of preparing for their exams. On the other hand, I felt that postponing the interviews till after students' examination would have been very irrational as most students often leave for holidays, almost immediately after completion of their last subject in the examination.

To allow sufficient exploration and detection of consensus within and across groups, and ultimately increase reliability and credibility of results (Kitzinger, 2005), I made a decision to invite 8 students per focus group and for every group, I randomly selected and invited 4 students (3 females and 1 male) from the second year class and 4 from the third year class (table 6). However, only 7 students turned up in one of the interviews.

Thus a sample of 23 students, drawn from a group of 64 students, participated in the focus group interviews. It could be argued however that this sample was representative of the study population. The group composition of both male and female students from both the second and third year class was carefully considered to enhance the rigour of collected data. Although it could be argued that such heterogeneity, particularly in combining 2nd and 3rd year students, can negatively impact group interaction (Kitzinger 2005), it was not seen as a problem in this study given that these participants studied together during the course. Their participation in classroom interactions and group discussions during the course might have made them to become acquainted with each other, thus ensuring "commonality" in the group, which is considered a vital criterion for the generation of a wide range of views in focus group research (Holloway and Wheeler, 2010).

Table 6: Summary of focus group composition

Focus Group Interviews	**Number of participants**	**Gender of participants**	**Class of participants**
Focus Group Interview 1	8	2males 6 females	4 second year students 4 third year students
Focus Group Interview 2	7	3 males 4 females	4 second year students 3 third year students
Focus Group Interview 3	8	2 males 6 females	4 second year students 3 third year students

A stratified purposeful simple random sampling technique was used to select participants for the focus groups (Addington-Hall, 2007). The course registration forms were used to facilitate this process. Every student on the registration form was a potential participant for the focus group interview if they gave consent to do so. I made a ballot of students in the various strata (female second year students, male second year students, female third year students, male third year students) and if I selected a student, I rang the student to solicit his/her participation in the focus group interview. If they accepted, I registered them for the interviews. However, if they refused to participate, I rang the next balloted student. This was done until I got 24 students that were needed for 3 focus group interviews.

4.10.4 Sample size and sampling strategy for the individual interviews

Ten students were recruited for the individual critical incident interviews. Researchers who have used the critical incident technique (CIT) (FitzGerald et al. 2008; Hughes, 2007) state that determining a sample size at the initial stage of a CIT study might not be sensible and advise that interviews be conducted until saturation is reached. They however agree that resource and time constraints can warrant a predetermined sample size. These constraints prompted a predetermine sample of 10 students. Moreover, the critical incident technique has the potential of generating much data, irrespective of sample size (Bradbury-Jones and Tranter, 2008; Sharoff, 2008). This technique yielded a total of 26 critical incidents, with an average of 2 incidents per student. Moreover, this was not the sole method used in studying students' transfer of their palliative care learning to practice.

The critical case purposive sampling strategy (Procter et al., 2010) facilitated the selection of students for the individual interviews. Firstly, students who mentioned during the focus group interviews that they encountered patients with life threatening/chronic conditions were noted and later invited for individual interviews.

4.11 Ethical considerations

Some ethical issues of this study included issues of confidentiality, anonymity, and coercion. To a certain degree, it also had a potential for psychological harm, which could occur during classroom sessions on the topic of dying. This might have resulted to participants remembering personal loses in their lives, which might have been psychologically demanding.

I obtained ethical approval for this study from the ethics review boards of the Faculty of Medicine and Health sciences, University of Nottingham and the Faculty of Health Sciences of the University of Buea, Cameroon (appendix 2). I obtained administrative approval for this study from the Dean of the Faculty of Health Sciences, of the pilot University (appendix 3) and the Head of the Nursing Department gave verbal permission, but signed the course implementation timetable (appendix 4).

I prepared an information sheet (appendix 5) that contained: the purpose of the research, data collection methods and tools, data management strategy, the voluntary nature of the research, how confidentiality and anonymity will be ensured, potential risks and benefits, withdrawal and why they have been chosen to participate in the research, and distributed to participants. I considered this a succinct but clear description of the entire research. Participants were asked to read this sheet and to voluntarily come forward and register for the course. Prior to course registration, they were expected to sign an informed consent form (appendix 6).

During the classroom advert sessions for the course, I emphasized to the participants that their participation has nothing to do with their grades in the regular nursing courses and that they could withdraw from the study at any time they deem necessary. Written consent to participate in the research was freely obtained, without any coercion. Given that I am the course developer and evaluator and that I am a nurse educator with this institution, the possibility of perceived coercion needed careful consideration; I was aware that a power difference might have resulted in students feeling obliged to take part in the study. However, I tried to the best of my ability to make sure that I did not knowingly coerce any student to taking part in the study. On the first day of the course, I explained the research nature of the course and made it clear that taking part in the study was voluntary. Respect was shown to the participants throughout the research process. Those who agreed to take part in the individual interviews were given the option to choose where and when they wanted to have the interviews done. The time and venue of the focus groups were negotiated with all participants in advance. At the beginning of every focus group and individual interview, I reminded the student(s) about the nature of the study and voluntary participation. I made it clear to them that their responses had no influence my personal views of them, and that we were in a process of co-construction of a palliative care course for preregistration nurse training in Cameroon. I also asked for verbal consent and level of comfort with recording the interviews. At the end of every focus group and individual interview, I thanked the participants for their participation and provided them with transport fare to and from the interview venue. Although I took all these measure to help the students not to feel coerced, they still might have felt so. I acknowledge that 'the sense of coercion' may have been inevitable (given that I was a nurse teacher with this department, had taught about half of these students while they were in the first year, and that I was delivering and assessing my own intervention).

Participants' individual identities were kept confidential throughout the research process. Anonymity, confidentiality and privacy of participants were ensured. After completing the pretest and posttest, I assigned a code number to every student and removed the students' university numbers. The data from the questionnaires as well as those from the interviews and focus groups were kept in a folder in my computer, and securely locked. The hard copies of the data were kept in a locked cupboard, only accessible to me.

The fact that I was the course developer, implementer and evaluator, might potentially have influenced the way I analysed the data and presented the results. I was reflexive throughout my study, acknowledging the possible impact I might have on the data, and to the best of my abilities was honest in reporting what was in the data. During the interviews I was sometimes concerned that my presence might have influenced the responses I got.

4.12 Access and recruitment of study participants

Permission to conduct the study was first obtained from the Dean of the Faculty of Health Sciences (FHS) of the pilot University, after submitting the research proposal for his appraisal. The authorisation letter obtained from the Dean (appendix 3), together with other relevant documents were used to apply for an ethical opinion regarding the study from the ethical review boards of the Faculty of Medicine and Health Sciences, University of Nottingham, United Kingdom and the FHS, the pilot University in Cameroon respectively. In the meantime, the Head of the Nursing Department of the pilot University was contacted to explain the overall aims and objectives of the study, what it demanded from and how it were to benefit the department. Logistic arrangements for the implementation of the study, if approved, were also negotiated. When ethical approval for the study was obtained from the ethical review board of the pilot University, this was presented to the Head of the Nursing Department, who then gave permission for the researcher to advertise the course to the targeted students. Together with the researcher, a timetable for the implementation of the course that could be integrated into the timetable of the ongoing courses in the department was agreed upon.

Flyers advertising the study (appendix 7) were posted the FHS notice boards. I also visited students’ classrooms to explain the study and to distribute the study information sheet. The initial plan was that following the classroom advert session, the course registration form was to be circulated for interested students to register, and that students who decide to participate later were to go for registration at the nursing department’s secretariat. Registered students were also expected to sign a consent form thereafter. However, after the advert session in the third year class and explanation of the registration procedure, the student group leader of that class, suggested that the registration and consent forms be left with him instead so that it is more accessible to students for registration. In addition, a short notice about the course and where to register was to be written on a portion of the classroom chalkboard, as is often done with other course related notices intended for students. The students agreed to that suggestion and as such this same strategy was proposed to and used for recruitment of students in the second year class. The study registration form requested for student’s names, university registration and phone numbers, which were to be used for identifying and contacting students for the study.

An aspect of the fieldwork that I did not foresee was students asking me about the meaning of palliative care during the classroom advert sessions. I however used this as an opportunity to market the course, by explaining to the students that if they took part in this course, they will learn about palliative care. I could not have provided them with the meaning of palliative care, since the pretest had not been administered, to avoid contaminating the field.

These students also wanted to know how the course was related to their training program and how it was to be organised. I told them that this was an optional course, and that it is not a component of their training curriculum. I stressed that it was important that they learn about palliative care as they will need it in their practice as nurses. I also told them that taking the course will be, to an extent, demanding in terms of time commitment and having to study extra material. The tentative timetable and a list of course facilitators, which were still under negotiation and development was presented to the students. When I mentioned the name of one of the nurse educators who took part in facilitating this course, students in the third year class clapped in excitement, explaining that they loved her teaching style.

They were also interested in knowing whether they would be required to take an examination for the course during their semester examination and if not, the benefits they will have participating in such a course. I responded that they were expected to fill some questionnaires on the topic of palliative care on the first day of the course and also at the end of their second semester placement, when they must have completed the course. I explained that this was not an examination. Given that I was a member of staff in that department and had taught the third year students while they were in the first year, I made it clear to them that I was conducting this study as a PhD student with the University of Nottingham in the United Kingdom, rather than a nurse teacher at the Pilot University. Thus I made it clear that their participation was not going to affect their course outcomes in anyway. However, I carefully explained that in addition to gaining understanding of palliative care, those who will complete the course shall be awarded a course participation certificate signed by me and my PhD supervisors. The mention of the participation certificate seemed a significant motivator for students' registering for the course, as they responded with applause, smiling faces, and enthusiasm. I also made it clear that we were to stop registering students for the course once we had the first 70 students, since this course was a component of a research project with a predetermined sample size.

The recruitment strategy was carefully considered to avoid coercion. In suggesting that the registration materials be handed over to the student group leader, the students seem to have taken the forefront in the recruitment process and opportunely minimised contacts between the students and I during the recruitment process, which might have been potentially coercive. However, I regularly rang the group leaders of both classes for the three weeks of the student recruitment period to get feedback about the registration process, keep tract of the number of students that had registered for the course and to make decision on whether or not to go to the classroom for another advert session. Based on my evaluation of students' registration rate for the course, there was not a need for another advert session.

Students started their regular nurse training placement the week following the completion of the palliative care course, either in the medical, surgical, paediatric, outpatient or the haemodialysis units of a regional hospital. They practised under the supervision of their regular placement mentors. It was anticipated that students would encounter patients with palliative care needs during their placements, raising questions about whether they could apply their learning to the care of these patients and their families. At the end of students' regular second semester placement, I visited them in their classrooms to remind them of the next phase of the study. These classroom sessions and telephone calls were used to invite participants for focus group interviews. During the focus group interviews, students who mentioned encountering/caring for a patient with a life-threatening illness and/or dying person during placement were later approached and invited by me for an individual interview to explore this in-depth. To ensure sample representativeness, students who did not participate in the focus group, but had the experience of implementing their learning in practice, were invited for an individual interview via a classroom session and telephone calls (Figure 6).

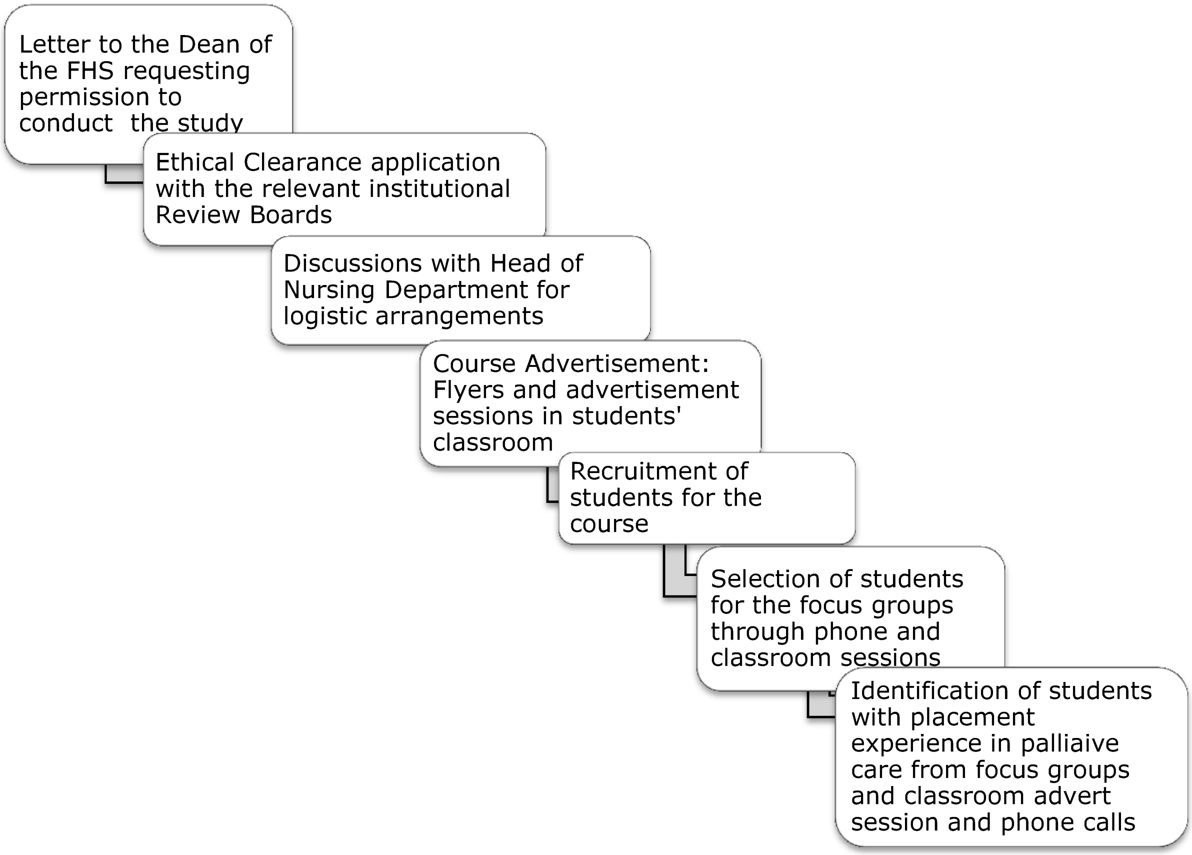


Figure 6: Flow diagram of access and participant recruitment

4.13 Phases of the research project

There are three phases in this study: 1) course development, and 2) piloting and 3) course evaluation. These phases are explained in detail below.

4.13.1 Phase 1: Course development

4.13.1.1 Introduction

There are several methods of educational program development including the ADDIE design (Moulton et al., 2010), backward design (Popa, 2009), and the six step approach to curriculum development (Kern et al., 1998). The six step approach to curriculum development by Kern et al. (1998) was used in this study, given its popularity in the development of medical educational programs (Johannes, Schulz, Bongartz et al., 2010). Moreover, it is logical, systematic and dynamic, allowing curriculum developers to start wherever is suitable in own context and to move back and forth the various stages. Thus it was found suitable for this project. The steps of the six step approach employed in this study are explained in the section that follows as well as in sections 5.4 and 5.5.

4.13.1.2 Steps followed in the course development process

1. **Problem identification and general needs assessment**

According to Kern et al. (1998) the development of an educational program necessitates the identification and characterization of the problem that will be addressed. This process can allow a program developer to assess and describe the “gap” between what currently exists and what should ideally exist (McCauley, 2009). This can be done by reviewing the literature, standards and reports by professional societies, as well as curriculum documents from other institutions. In addition, it could also entail the collection and analysis of new data, and/or consultations with experts (Kern et al., 1998). These methods might to varying degrees throw more light on felt educational needs (what people say they need), normative educational needs (an individual’s need in relation to recognized standards) and comparative educational needs (an individual/group’s need in comparison to a similar individual/group) (Hauer and Quill, 2011; Grant, 2002). With these considerations in mind, I made a plan with series of discrete steps to develop a palliative care course for preregistration student nurses at the pilot University:

- First, I undertook a comprehensive review of the literature (reported in chapters 1 and 2), which identified and established the need for preregistration palliative care education in Cameroon.
- Then I reviewed some palliative care core competencies and core curriculum contents developed by the APCA, EAPC, and ELNEC to identify the important contents, and educational strategies recommended for palliative care education at this level.
- I also reviewed some accessible comparative international curricula (University of Nottingham and those in the studies presented in chapter 3) to identify evidence based delivery strategies. This was also to identify past curricular efforts, implementation issues and outcome data. By doing these, I

wanted to ensure the development of a palliative care course that meets global standards and is relevant to the present-day registered nurses' practice.

- I used the findings from the above processes together with my knowledge and experience of the situation in Cameroon, as a preregistration student nurse, a practising nurse, and a nurse educator, to develop the palliative care course.
- I then presented this course to experts in the field of palliative care (my PhD supervisors and an expert palliative care lecturer at the University of Nottingham) for review and suggestion.

All the above processes were undertaken during the first year of my PhD study, while I was in the UK.

2. Needs assessment of targeted learners

Kern et al. (1998) suggest that at this stage curriculum developers should identify targeted learners' previous training and experiences, their existing competencies and perceived learning needs, and the available resources relevant to the curriculum under development. This assessment can be formal, using strict survey and interview methods, or informal, through discussions (in person/phone/email) with stakeholders including students, educators, the educational institution, and consumers (Grant, 2002; Ury et al., 2000; Kern et al., 1998). I however adopted two major strategies to assess the targeted learners. These are described below and represented in figure 7. This part of the needs assessment was conducted while I was in Cameroon.

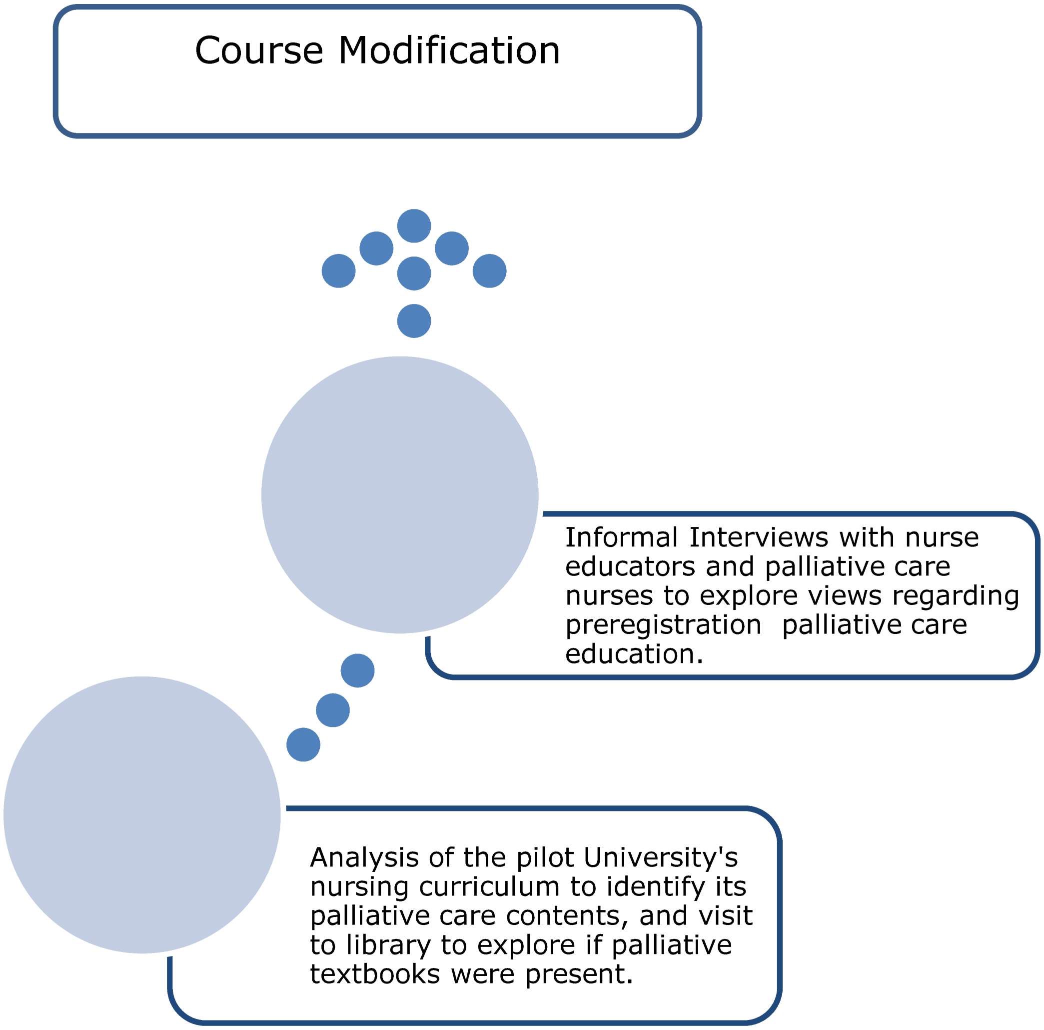


Figure 7: Stages of curriculum modification

i. Curriculum review

I undertook a review of the existing preregistration nursing curriculum document of the pilot University to identify its palliative care contents and examine how this resonates with international standards. I also explored the lecture log-book from 2010-2012 (a document in which taught contents are recoded for every session in an academic year) to verify whether the palliative care related topics in the curriculum document were being delivered to students. I also visited the library at the Faculty of Health Sciences of this University to explore if there were any palliative care textbooks.

ii. Informal interviews with nurse educators and palliative care specialist nurses

I conducted informal interviews with some 12 nurse educators, 2 specialist palliative care nurses and 1 qualified nurse, to explore their views regarding contents and strategies for preregistration palliative care education in Cameroon. This informal strategy was chosen for pragmatic reasons, mainly time constraints. However, the limitations of this strategy- lack of methodological rigour, variation in questions and interviewer biases (Kern et al., 1998), were potential weaknesses.

I had individual discussions with 4 of the nurse educators, the 2 palliative care nurses, and 1 qualified nurse, to explore their views regarding the relevance of and possible strategies for palliative care education for preregistration nurses in Cameroon. I also had discussions with the head of the nursing department on this subject matter. Moreover I had the opportunity to meet 8 nurse educators who were visiting the University, and I seized this opportunity to initiate a group conversation with them. In this conversation, I explored their views about: developing a palliative care course for preregistration nurses in Cameroon, what it should entail, and how it can be deliver given the lack of needed resources.

In addition to the informal interviews, I also gave a copy of the course that I developed while in the UK, to the above 4 nurse educators and 2 palliative care nurse specialists, who I felt could take part in the course delivery, requesting that they review the content allocated to them and make any suggestions for enhancement.

The targeted learners were not contacted at this stage to minimise any potential influence on their behaviour, which might have affect the way they would have responded to the pretest questionnaire. This was especially because the time span between contact and the pretest was very short. This component however has been considered as I discuss the course enhancement strategies in chapter 9.

The course that was developed based on these processes is presented in chapter 5.

4.13.2 Phase 2: Course implementation

4.13.2.1 The implemented course content and facilitators

The course contents and facilitators were as shown on table 7 below. The detailed course content is presented in chapter 5 and the course implementation timetable is found in appendix 4. The choice for course facilitators is discussed in the paragraphs that follow.

Table 7: Summary of palliative care course contents and facilitators

Module I: Introduction to the principles and practice of palliative and end of life care		
	Content	**Facilitator**
Session 1	Palliative Care I	Myself and a palliative care nurse
Session 2	Palliative Care II	Myself and a palliative care nurse
Module II: Communication skills and Breaking Bad News		
Session 1	Communication in palliative care	Nurse educator who has attended a course in communication skills
Session 2	Breaking bad news	Myself
Session 3	Basic principles of HIV/AIDS counselling	Palliative care nurse
Module III: Pain and other symptom management		
Session 1	Pain and pain assessment	Myself
Session 2	Pain management I (pharmacologic)	Palliative care nurse
Session 3	Pain management II (non-pharmacologic)	Palliative care nurse
Session 4	Other symptom management I	Palliative care nurse
Session 5	Other symptom management II	Palliative care nurse
Module IV: Psychosocial, spiritual, and ethical issues in palliative and end of life care		
Session 1	Psychosocial, ethical and legal issues in palliative care	Nurse educator, with clinical practice experience and experience in teachings about ethical and legal issues in nursing
Session 2	Spiritual care	Chaplain
Module IV: Dying and death; loss, grief and bereavement management		
Session 1	Dying, dead and after death care	Palliative care nurse
Session 2	Bereavement management	Chaplain
Session 3	The palliative care nurse in loss grief and bereavement management	Myself

4.13.2.2 Selection of course facilitators

A major strategy in this study was to use local and affordable resources, to aid future sustainability, if successful. In this light, the course was delivered by 6 facilitators including; 2 palliative care clinical nurses, 2 nurse educators, a chaplain and me (Box 3). I selected the facilitators based on my personal knowledge about them, as well as through literature review and networking.

At the initial stage of course planning, although I knew the relevance of recruiting competent facilitators, with both palliative care content knowledge, experiences in palliative care practice and knowledge of the Cameroonian health care system (Bassah et al., 2014), I was not sure how that was possible in Cameroon. At this stage, I had identified one Cameroonian palliative care specialist nurse, but had not been able to contact him. This made me to informally solicit the services of four nurse educators, a qualified nurse, and a priest, who were not palliative care trained, to participate in course facilitation.

When I finally contacted the palliative care nurse, I discussed my intended project with him. However, I needed to obtain permission from his work place, to allow him take part in the project. This was gained after three email exchanges with the director of his work institution. This palliative care nurse linked me up with a chaplain, who had delivered content on spiritual care and bereavement management in some palliative care training seminars for qualified health professionals in Cameroon. In addition, the director of the palliative care nurses' work institution also introduced me to a palliative care doctor in the UK who had organised and delivered palliative care training in

Cameroon. This doctor linked me up to other palliative care trained nurses, doctors and a social worker in Cameroon, who could take part in the course facilitation. With these, I took a pragmatic decision to leave out two of the initially contacted nurse educators, the qualified nurse, and priest, explaining to them the reasons why. This decision was motivated by the desire to select facilitators who had both specialist knowledge about, and practice experience in palliative care.

Ideally, I would have loved to invite a palliative care trained physician and a social worker in Cameroon, to have a multidisciplinary team of facilitators. However, a difficult compromise had to be made due to time and resource constraints. These practitioners lived some distance from the town where this study was being conducted, and inviting them would have meant funding their transportation, accommodation and subsistence. I thus made a choice to only use facilitators who were based around the study area, except for the chaplain who came from Bamenda because he was the only expert I could get for the session he facilitated. The nurse educators were colleagues with whom I studied and had worked with, and on whom I could rely for their competence.

I visited these facilitators in their respective places of work to discuss the project with them and solicit their participation in course implementation. I made it clear to them that I was imploring their services free of charge. I also wrote an official letter to each facilitator explaining the study, why the facilitator has been selected to facilitate the course, what topic he/she was expected to facilitate, and the support materials that were available to enhance preparation for their sessions. I also held one or two planning meetings and had phone call exchanges, depending on individual needs, to brief facilitators on their assigned topics, the expectations of the presentation and to clarify any issues with the facilitators.

Box 3: Brief description of the background of course facilitators

Palliative Care Nurse 1

- First Cameroonian nurse to be trained for a bachelor's degree in palliative care at Hospice Africa Uganda.
- Opened the first palliative care unit in the country
- Works on an HIV/AIDS diagnosis, counseling and screening program in a local hospital in Cameroon.

Palliative Care Nurse 2

- Holds a diploma in palliative care from Hospice Africa Uganda, and was currently undertaking a bachelor's degree course in palliative care
- Works as ward manager and supervisor of palliative care in-patient, outpatient and homecare palliative care services in a local hospital in Cameroon
- Had been involved in facilitating palliative care training courses for practising healthcare providers in Cameroon.

Nurse Educator 1

- A professional nurse by background, with a Bachelor's degree in Nursing Science and a Master's degree in Nursing Education.
- A Registrar and nurse teacher in a private government accredited nurse training school in Buea,
- Part time assistant lecturer with the department of nursing of the pilot University,
- PhD student with a University in the UK.

Nurse Educator 2

- A professional nurse by background, with a Bachelor's degree in Nursing Science and a Master's degree in Nursing Education.
- Had worked as a clinical nurse at a district hospital in Northern Cameroon for about 6 years
- Currently working as a nurse teacher in a government owned school of nursing in the South West Region of Cameroon.
- Part-time assistant lecturer with the department of nursing of the pilot University.

Chaplain

- A PhD holder and works as a Psychotherapist and chaplain with a local hospital in Cameroon.
- Trains chaplains and social workers in bereavement management.
- Had worked as a support worker in a hospice service in the USA.

N:B: Without a Master's degree at the minimum, the palliative care nurses were not qualified to teach on a bachelor's degree course at the pilot University. Nevertheless, in the absence of qualified nurse educators who had both content knowledge and practice experiences in palliative care, these nurses were considered qualified to co-teach with a more academically qualified persons, within the context of palliative care education (Bassah et al. 2014). Thus I always observed, monitored and supported their sessions, as a strategy to overcome this weakness.

It was not feasible organising a meeting of all facilitators together, as they all had constraints of time due to their regular work commitments. During course implementation, I provided each facilitator with lunch and transportation fare to and from the course venue, to show my appreciation for their participation.

4.13.2.3 Distribution of course contents to facilitators

The content(s) assigned to the course facilitators were based on each facilitator's specialty and prior teaching experiences (Box 3), to ensure that the assigned content(s) were not completely new to the facilitators. This distribution is explained in details below and summarised on table 7 above.

I supported and monitored all the sessions of the course, to ensure they were up to standard and delivered as planned. When the need arouse I substantiated on some points, participated in question and answer sessions, facilitated group discussions and feedback sessions and sharing of personal experiences in care of patients with life-threatening and chronic conditions and dying patients. I facilitated the sessions on the concept of palliative care and breaking bad news. I felt competent to facilitate these sessions because I had participated (self-studied) in a module at the University of Nottingham entitled 'Principles of Palliative and End of Life Care'. I had previously observed an experienced palliative care nurse and educator at the University of Nottingham present on these topics to undergraduate student nurses of the University of Nottingham, where I learned some tactics and received her presentation handouts.

The nurse educator who facilitated the session on communication in palliative care had participated in a communication skills course and was currently teaching communication skills to student nurses. The nurse educator who facilitated the session on ethical issues in palliative care, had taught ethical issues in nursing in the previous year to the 3rd year students who took part in this course.

The palliative care nurses and the chaplain were assigned the topics on the concept of palliative care, pain and symptom management, care at the time of death, spiritual care and bereavement management because they had both educational and professional experiences on these topics.

4.13.2.4 Course delivery strategy and instructional methods

The course was delivered for five days. On each day, three 2 hour sessions were presented by either two or three facilitators as shown on the course implementation timetable (appendix 4). The first two modules were delivered on the first two days of the course. Pain assessment and management was covered on the third day, symptom management and psychosocial and ethical issues were presented on the fourth day and care at the time of death, spiritual care and bereavement management were covered on the fifth day.

The course content was delivered using participatory teaching methods, given that it was underpinned by the experiential learning theory. The main teaching methods employed during this course included: interactive lectures assisted by PowerPoint presentations, pictures and DVD players, presentation of case studies/scenarios and sharing of personal experiences, group discussions of concepts and experiences, role play and question and answer sessions. During the planning sessions with the individual facilitators I explained the theoretical underpinning of the course and suggested some preferred teaching strategies, which I considered experiential. In addition, the facilitator's manual of the palliative care toolkit used for this course had some suggestions of possible teaching methods that could be used for various modules. Moreover, some of the facilitators had attended training courses during which these topics were presented and/or had facilitated similar topics in previous seminars with qualified nurses. However, the final decisions on how their sessions were to be organised and delivered was most often theirs.

4.13.2.5 Educational resources available to course participants and facilitators

The course participants each received a copy of the palliative care toolkit by Lavy and Woodridge (2008). In addition to this toolkit, palliative care text books, manuals, tapes and disc (Box 3), were available for students to loan during the course. These resources were funded by the Sue Ryder Centre for the study of Supportive, Palliative and End of Life Care of the University of Nottingham. The available educational materials were made known to students and they could request for any available material to use during the course. When students requested resources that had been loaned by another student, I would get in contact with the student who was in keeping of the book, to request whether another student could have it as well. This was due to the limited resources in this study. These resources were later retrieved from the students at the end of their second semester, prior to summer holidays.

Each facilitator received a copy of the palliative care toolkit by Lavy and Woodridge (2008) and its associated trainers' manual (Lavy, 2009). The nurse educators who had not had training in palliative care were supplied with some textbooks and manuals on their presentation topics. These materials were supplied to the educators about two months prior to course implementation. However, the textbooks were withdrawn from the educators some days before the start of course implementation to make them available for use by students. This was a strategy to breach the lack of available resources for the course.

4.13.2.6 Unanticipated factors that influenced course implementation

The initial plan was to deliver one module in a day, in a week, over five consecutive weeks. However, due to the celebrations of the 50th anniversary of the country's re-unification and the consequent visit of the President of the Republic of Cameroon to town where this study was conducted, the University calendar was altered. Thus I had to adjust the intervention time frames, to make it fit into the new timetable of planned activities for students in the Department of Nursing. In this regard, in the first week of course implementation, two modules were delivered on two consecutive days, this was followed by two weeks, without the course, and towards the end of the fourth week, students received two modules on two consecutive days and one module at the start of the fifth week. This stood out to be the most feasible plan for the implementation of this course, based on the availability of slots on regular departmental timetable and the availability of course facilitators. It was also to ensure that the students could have considerable amount of clinical experience after the course.

This time however coincided with a time when all third year students, including the nursing, medical laboratory and medical students of the Faculty of Health Sciences were having their regular community health practice in local communities in the Limbe Health District, which is about 8 miles from the University where the study was conducted. Based on negotiations between the Head of the Nursing Department and I, it was agreed that the third year students could leave from Limbe to the University, to attend the first two sessions of the course. Given the research and optional nature of the palliative care course, I thought that the cost of a return transport fare from Limbe might prevent some students who would normally have wanted to participate in the course from taking part. Thus the third year students were given the option of being transported to campus to attend the course and back, if they desired. This was accepted and I bore the cost of transporting. The last three sessions were programed at a time when students were expected to be on campus, so I did not need to transport them anymore.

In addition, during the session on symptom management, there was power failure when the teacher was presenting picture of patients manifesting with certain symptoms of chronic and life-threatening conditions, and thus the facilitator could no longer use the projector for about half the duration of that session. Thus it was challenging for the facilitator to present as anticipated, and students also seemed to have found it difficult re-adjusting to the lecture without the projections.

During the last three sessions of the course, the students were moved to a smaller classroom, as the student group which normally would have their lectures in the larger room that was initially used for the first two sessions had returned to campus. This led to the students being packed in a smaller hall and they were inconveniently seated.

4.13.3 Phase 3: Course evaluation

4.13.3.1 Piloting and delivery of research instruments

The pre and posttest survey instrument was piloted with a group of students who have studied for three years and have obtained a Higher National Diploma (HND) in Nursing and were undertaking a one year conversion program to obtain a Bachelor degree in Nursing. These are students of a nursing institution which is supervised by the pilot University and is found in Bamenda, a town in the North-West Region of the country, which is a considerable distance from the targeted study participants. The pilot was considered relevant because these instruments had not been used in this context. It thus evaluated the clarity of the questions, instructions and layout and provided an estimate of the time needed to complete the questionnaire (Cohen et al., 2008).

The main issues that came out from this pilot were about; layout, numbering, and clarity of a few demographic questions. The instrument was then modified based on the findings from this pilot. For example, there was rephrasing of the open ended questions on the demographic subscale and renumbering of the items on the self-perceived competence and confidence subscale. This pilot also indicated that the questionnaire could be completed in approximately 47 minutes.

4.13.3.2 Data collection process

1. Quantitative data collection process

Baseline assessment of the outcome measures was conducted on the first day of the course, prior to the start of the lectures about palliative care. The 69 students who attended the course on the first day were briefed on the course details and what was expected of them during their participation in the course. They were reminded of the research nature of the course and that their participation was optional. The baseline questionnaires were distributed to students by me and a classroom assistant and were self-administered, in the classroom, by all participants at the same time. They were made to understand that they were not being tested, and that the intent was to gather information that would be used to assess their current levels of palliative care knowledge and self-perceived competence and confidence in palliative care provision. The questionnaire completion process was supervised by me and a trained research assistant. Students were told to ask for clarifications on language, layout or interpretation, if any. These strategies were deemed necessary to ensure that students could complete all items on the questionnaire. During this process, we ensured that students were not in possession of materials from which they could reference answers to the questions and also that they were not in communication when completing the instrument. The process lasted for approximately 43 minutes.

A follow up assessment was conducted at the end of students' second semester placement experience, approximately two months after the last day of the course, to allow completion of the experiential learning cycle (Kolb, 1984) as well as minimise the practice effect (Polgar and Thomas, 2008). I visited the students in their classroom and informed them about the date, time and venue of the posttest. The posttest was administered under similar conditions like the pre-test. For example all students were put together in the same classroom to take the test together and the posttest was supervised by me and the research assistant. However, the open ended questions on students' previous encounter with a dying person and previous education about palliative care were removed from the posttest questionnaire because they were deemed irrelevant. To ensure all students who took part in the course could participate in the posttest, it was timetabled on a regular school day, on a free slot negotiated for by me with the Head of the nursing department. The approximately 12 week duration between the pretest and posttest was considered sufficient to preclude remembering exact responses to questions in the pretest.

2. Qualitative data collection processes

i. Focus group data collection process

The focus group were all conducted in classrooms on campus, because this was a venue where we could get sitting space that was good enough to accommodate the group. Moreover, it was a more familiar setting to participants, and could be considered non-threatening. Based on my review of focus group methodological literature (Halloway and Wheeler, 2010; Kitzinger, 2005; Bryman, 2004) and literature about educational program evaluation, I developed some etic questions for use as guide (appendix 8) during the focus groups. These were aimed to guide the entire interview, and perhaps also arouse some emic issues pertaining to the students.

Sessions were moderated by me with a classroom assistant, who participated during the focus group as a note taker. Although neutral facilitation is recommended when focus group are used in educational program evaluation (Halloway and Wheeler, 2010), I made a choice to facilitate the focus groups in this study. This choice however was practically and epistemologically important. Practically, it would have been challenging to recruit, train and pay both a facilitator and a note taker. Epistemologically, the lack of a well-trained facilitator would have compromised the possibility of an open conversation and thus rigor in data collection (Confrey and Stohl, 2004,). With this in mind, I considered that my professional experience as nurse educator as well as the course developer and implementer, enhanced my understanding of the phenomenon under investigation to enable me ask the right questions. However, given that I was the course designer, implementer and evaluator, I recognised the possibility of bias (Confrey and Stohl, 2004). There was this unavoidable feeling of wanting to know more of the strengths of the course. I also recognised that the power relationship between me and the students could influence the way they will respond to the interview questions, maybe with the 'intention to please the researcher'. I remember during one of the interviews, when asked about the weaknesses of the course, one of the students said "I don't know whether I should say this here". With this I explained to students to feel free to express their views as we were all involved in the co-development of the palliative care course. Although this could be said to outweigh the above named potential biases, I cannot claim there was no such influence.

At the start of every focus group, I briefed participants on its aims, strategy and approximate duration. I also explained to them that the focus groups will be audio-recorded to produce verbatim written transcripts. Verbal consent was obtained from participants to tape the focus groups. They were also asked to indicate their first names at the start of the conversation, to enable identification of individual participants during transcription. I started the focus groups by asking them what they knew about palliative care prior to attending the course. I then asked what their expectations were when they registered for the course, and whether these expectations were met. These questions were seen to enhance students' comfort with the focus groups and maybe increased the validity of their responses to the questions. It was however noted that the responses to these questions were often related to course strengths with very little and careful mention of course weaknesses. Students often only mentioned course weaknesses and what they will change if given the opportunity towards the middle or end of the interviews or when prompted.

During the focus group I was keen to avoid unsuitable intrusion and the domination of sessions by particular individuals

(Goodman and Evans, 2010). I only asked questions or probed to help students substantiate on a point, or when I thought a discussion point has been deeply explored and there was need to move onto a new question. For example when one student said: “I think theoretically the course was well done but what was really lacking was really the practical part of it”, I asked: “When you say the practical part was lacking, what do you mean? In addition, I called up dormant students by their names and asked if they had something to say about the issue under discussion. To one of the students I said:”(name of student withheld) can we hear from you a bit more?”.

Typical of the focus groups in this study is the fact that at the beginning, students took turns to answer questions, making it look like a group interview. However, as the interviews progressed, group interaction was achieved and students could challenge, support or substantiate on the points raised by other group participants. For example by saying “I think I agree on (name withheld) and (name withheld) point”. In addition, in the first focus group interview there was a dormant participant who rarely spoke, but when she did, she turned the discussions around. For example when students who had encountered patients with life-threatening conditions were discussing what they could do or not do and why, she shared her views: “Even though I did not come across any patient who was dying…”, which made students who did not encounter such patients to discuss what they could or could not have been able to do if they had had such encounters. The focus groups lasted between 46-69 minutes and were all tape recorded.

ii. Semi-structured individual interview data collection process

Students were asked to talk about incidences where they encountered patients with palliative care needs during their clinical placement experience, what they could do, or not do for these patients and the facilitators and barriers to this. During the interviews a guide (Appendix 8) was employed to encourage students to report behavioural descriptions, and where necessary, probes and prompts were used to elicit more information from the students (Bryman, 2008; Cohen et al., 2008). These interviews were conducted shortly after students had completed their placement, to facilitate recall of their experiences with patients and their families who were approaching the end of life during placement (FitzGerald et al., 2008; Schluter et al., 2008). They were all conducted in rooms on campus as agreed upon by me and the individual students. They lasted for an average of 30mins and were all audio-recorded.

I had had prior experiences of conducting post clinical viva with preregistration student nurses, but this was often for formative assessment purposes. During such interviews I will often identify good and poor practices and challenges encountered during placement. These were often examined with the students, with suggestions for improved future practices. However, in this case I was interviewing with no intension to examine poor or good practice with the students or make suggestion for improved future practice. It became challenging to only listen to and probe students to share their experiences, without critically appraising it with them.

I two of the interview, I had the impression that the students, after receiving the invitations for the interview, prepared to talk about something particular, and when that was said, they were not willing to say more. In such cases, prompts and probes were not very helpful. However, a majority of the interviews were expansive and students felt much at ease narrating their experiences, and were enthusiastic talking about them. Thus 8 interviews were conversational while 2 were like a question and answer session.

During the individual interviews, some three students narrated some incidences of the care of a patient with a life threatening condition that they did prior to the course. Another student talked about providing spiritual support to a patient and his family, but he did not know the diagnosis of this patient, and based on the history of the patient, I reasoned the patient was not having a life-threatening condition. During one of the focus groups two other students talked about situations where they provided psychosocial support, but these were to patients who did not have the diagnosis of a life-threatening condition (patients with a first degree burn and a non-severe malaria patient). These incidences were not considered in the analysis as they did not meet the criteria set for the incidences collected in this study.

Since these interviews took place in rooms on campus, there were instances where other students were walking through, peeped through the doors or walked in. These might have sometimes disrupted participants' narratives and they introduced some background noise.

4.13.3.3 Data management

1. **Sorting and storage**

Students were requested to write their university registration numbers on the questionnaires at both pretest and posttest. This enabled matching of individual students' pretest questionnaire to posttest questionnaire. After matching the pre and posttest questionnaires, each sets of questionnaire was assigned a study number and the students' university number removed. Data on the questionnaires where then entered into SPSS version 21.0.

The focus group and individual interviews were assigned code numbers and transcribed separately and verbatim by me. After the transcription, participants' names were removed and they were assigned codes. These transcripts were also uploaded into the Nvivo software program on my computer that was to be used for analysis. These files were kept securely in a locked folder in my computer and all hard copies of data kept in locked cupboard, accessed only by me.

2. **Transcription of the focus groups and interviews**

I transcribed the entire interviews verbatim in English. Given that the participants said their names at the beginning and when they made a point during the interview, I could identify the various participants with what they said during the entire interview. Listening to the interview transcripts several times made me to become familiar with participants' voices and thus enabled their identification throughout the interview transcripts. In addition, prior to and after data transcription, I listened to the tapes several times to acquaint myself with the data and to ensure that the transcription was correctly done. The transcription was limited to what was said. I did not go into the detail of how it was said, by recording things like tone of voice, and pauses. Due to the conditions in which the interview took place background noise interfered with the quality of some of the recordings, obstructing the clarity of certain words and phrases. This posed a challenge in transcription as I had to listen to the tape keenly and repeatedly to be able to identify these and to fill any missing gaps in the transcripts. At the end I read through the entire transcripts while listening to the tapes and checking for accuracy. I however did not offer the possibility of showing transcripts to participants for their comments, and no participant asked to see the transcripts.

4.13.3.4 Data analysis

Different methods of data analysis were employed. I selected analytical methods that were appropriate for the nature of the data. These methods are summarised on table 8 and explained in the paragraphs that follow.

Table 8: Summary of method of data collection and analysis

Method of data collection	Nature of data	Data analysis method
Pretest posttest questionnaires (open and closed ended questions)	Written text Nominal, continuous and categorical quantitative data	Thematic analysis using the framework approach Descriptive statistics Paired sample t-test McNemars test McNemar Bowker test ANOVA test Pearson chi-square test
Focus group	Transcribed text	Thematic analysis using the framework approach
Individual interviews	Transcribed text	Thematic analysis using the framework approach

1. Quantitative data analysis strategies

i. Missing Values

After collecting the completed questionnaires from the students, data were coded and prepared for analysis using SPSS version 21.0. The only missing data was the posttest score of the 5 students who did not complete the course. The pre and posttest questionnaires were completely filled in by the participants, with no missing values. The high response rate might have been because the questions assessing students' palliative care knowledge gave participants the option of 'I don't know' and any unanswered questions were considered as wrong answers. The scale that was used to assess students' competence and confidence in palliative care provision was a subjective Likert type questionnaire, with options ranging from strongly disagree to neutral to strongly agree. The pretest and posttest were administered during regular school period when students were all on campus, and this was done in their classroom during a free period allocated for the exercise. Moreover, it could also have been due to the information given to students prior to completing the questionnaires. During both the pretest and posttest, I asked the students to ensure that they responded to every question on the questionnaire. I and my classroom assistant were also present when the questionnaires were being filled and we moved round the classroom to supervise the exercise and to ensure and remind students to complete the questionnaires. Given this high response rate one could say that the threat to non-response bias was eliminated. However, the missing data in the posttest, due to the five students who did not complete the course might have introduced some bias. One of these students informed he could not attend the last three sessions of the course, because he had lost his father and had to travel to his home town for the funeral. Another student took ill and so could not attend. The other 3 students did not indicate why they could not come and since the course was for volunteers, I did not ring the students to investigate why, but was hoping that if they wanted to share their reasons for not attending with me they might do so. This to me was a way to avoid coercion and intrusions.

ii. Demographic data analysis procedure

Descriptive statistics were calculated for the demographic data. These statistics included frequencies, means and standard deviations, and were used to describe the sample. To ensure the availability of a sample which is adequate for statistical calculations, different groupings, from what were on the questionnaire, were created. For example, the age groups were merged into two: 18-20, and >21, because there were very few students in the age group 24 and above. In addition, the religious affiliations: Presbyterian or Baptist were merged and renamed 'Presbyterian and Baptist', and Islam or No Preferences or Others were also merged and renamed 'Others'.

iii. Analysis of data on palliative care knowledge

I used a parametric test, the paired t-test, to calculate the change in students' palliative care knowledge from pretest score to posttest score, and to examine the significance of this change. This is a suitable test to assess whether a difference occurs between the means of two similar data sets (Neideen, and Brasel, 2007). For this analysis, scores on the PCQN scale were calculated as the number of correct versus incorrect answers. 'I don't know' and unanswered questions were counted as wrong answers. I created a new variable, called 'dffscore', which was the change score of each student; subtracting the pretest score from the posttest score. I also created a histogram of the responses for the pretest, posttest and dffscore to check the distribution of the data. Given that these distributions were normal and the variable under consideration was a continuous variable based on the same sample, I reasoned that the t-test was a suitable test in this case.

McNemar's test, a nonparametric test (Neideen, and Brasel, 2007), was used to assess change on the individual items on the

PCQN scale because the variables were binary categorical outcomes variables based on the same sample. For this analysis, I used the following assumptions of a 2 by 2 contingency table:

Consider a 2 by 2 contingency table:

		AFTER		
		Correct	Not Correct	
BEFORE	Correct	A	B	A+B
	Not Correct	C	D	C+D
		A+C	B+D	N

- A is KNOW before and KNOW after
- B is KNOW before and NOT KNOW after
- C is NOT KNOW before and KNOW after
- D is NOT KNOW before and NOT KNOW after
- A+B is KNOW before
- C+D is NOT KNOW before
- A+C is KNOW after
- B+D is NOT KNOW after
- N is the TOTAL number of students

The objective of this analysis was to assess the proportion of students who knew before (A+B) to the proportion of students who knew after (A+C).

The McNemar-Bowker statistic was conducted to assess how the course had impacted on students' knowledge of the various subthemes of the knowledge questionnaires including: the principles of palliative care, pain and symptom management and psychosocial and spiritual care, as partitioned by the authors of this instrument (Ross et al., 1996) (Box 2) and the self-perception questionnaire: communication, advance care planning, pain and symptom management, overarching values and beliefs (Chady et al., 2012) (appendix 1). This was seen as a suitable test because the outcome responses for the subthemes were on more than 2 levels. This is however limited in that there is a probability of a type 1 error which might occur as a result of multiple testing. In order to conduct this test, I created some new variables, as presented below.

a. Principles of palliative care

Students' knowledge of the principles of palliative care according to Rose et al. is assessed by questions 1, 9, 12, and 17 of the Palliative Care Quiz for Nurses (PCQN) questionnaire. Thus the maximum score on this subtheme is 4. The analysis here looked at the proportion of each score;1, 2, and 3 or 4 on a scale of 4 for both the pretest and posttest and examined whether there was a significant change. For this analysis to be possible, I initially created two new variables, 'PPCpre' and 'PPCpost', consisting of pretest and posttest scores for the questions for this theme respectively. Given that no respondent scored 4 during the pretest, a third variable, 'PPCpost_recode', was created by merging the number of respondents who scored 4 with those who scored 3 on the posttest. This merging was needed to ensure the scores were common to both the pre and posttest, with values in all cells, to enable statistical calculations. The McNemar-Bowker test was then conducted using the variables 'PPCpre' and 'PPCpost_recode'.

b. Pain and symptom management

Students' knowledge of pain and symptom management according to Rose et al. is assessed by questions 2-4, 6-8, 10, 13, 14-16, 18 and 20 of the PCQN questionnaire. Thus the maximum score on this subscale is 13. The analysis looked at the proportion of each score on a scale of 13 for both the pretest and posttest and examined whether it was significant. For this analysis, I initially created two new variables, 'PSMpre' and 'PSMpost', consisting of pretest and posttest scores for the questions for this theme respectively. Given that no respondent scored less than 5 in the posttest for this subtheme, a variable, 'PSMpre_recode', was created by merging the scores from 0-4 with those who scored 5 in the pretest. Another variable, 'PSMpost_recode', was created by merging the number of respondents who scored from 9-13 with those who scored 8 in the posttest, since there was no respondent who scored more than 8 in the pretest for this subtheme. The McNemar-Bowker test was then conducted using the variables 'PSMpre_recode' and 'PSMpost_recode'.

c. Psychosocial and spiritual care of patients and their families

Students' knowledge of psychosocial and spiritual care of patients and their families according to Rose et al. is assessed by questions 5, 11 and 19 of the Palliative Care Quiz for Nurses (PCQN) questionnaire. Thus the maximum score on this subscale is 3. The analysis looked at the proportion of each score on a scale of 3 for both the pretest and posttest and examined whether it was significant. For this analysis, I initially created two new variables, ‘PSCpre’ and ‘PSCpost’, consisting of pretest and posttest scores for the questions for this theme, respectively. Given that no respondent scored 3 during the pretest for this subtheme, and that only one respondent scored 3 during the posttest, another variable, ‘PSMpost_recode’ was created merging those who scored 3 with those who scored 2 during the posttest. The McNemars test was then conducted using the variables ‘PSCpre’ and ‘PSCpost_recode’.

iv. Predictors of change of knowledge

An analysis of variance (ANOVA) was conducted on the pretest score, and the posttest score, and each demographic variable (age, religious beliefs, year in nursing course, previous experience in the care of the dying) to identify predictors of students’ palliative care knowledge before and after participating in the palliative care course.

v. Analysis of data on self-perceived competence and confidence in palliative care

The McNemars test and McNemar Bowker tests, where applicable, was also used to assess change from the prestest to the posttest in students’ self-perceived competence and confidence in palliative care provision as this data was measured on an ordinal scale.

I created a new variable, the ‘change variable’, which investigated if there had been an increase (+1), no change (0) or a decrease (-1) in respondents’ scores after the course for each individual item on the questionnaire.

The subtheme score were calculated for all the subthemes on the SPCCPCP subscale as the mean score on responses to items that formed each subtheme, individually scored using the 5-point Likert scale described above.

A Pearson chi-squared test was conducted to examine whether there was any correlation between the demographic variables and the pretest and posttest scores for students' SPCCPCP subscale.

An analysis of variance (ANOVA) was conducted to assess whether there was a relationship between pretest palliative care knowledge score and self-perceived competence and confidence in palliative care provision pretest score, as well as between posttest palliative care knowledge score and self-perceived competence and confidence in palliative care provision posttest score.

All statistical test were carried out at a significant level of $P<0.05$.

2. Qualitative data analysis strategies

i. Focus group data analysis strategies

Data obtained from the focus groups was analysed thematically (Bryman, 2008; Braun and Clarke, 2006), using the framework approach (Gale et al., 2013; Srivastava and Thompson, 2009). The transcription of the interviews and repeatedly listening to the interview gave me a good grasp of the data. Throughout the analysis process, I re-read the transcripts and constantly listened to the tape to acquaint myself with students' narratives and to identify the similarities, and differences of student experiences. I employed the qualitative analysis software package QSR Nvivo 10 to code the data and classify into subcategories and categories. As a novice qualitative researcher, it was challenging using the Nvivo software, so I only used it to code and categorise the data, and to select and organise texts that represent the codes.

I started the analysis with one of the focus group interview data. I read the text line by line to identify recurrent ideas. I then undertook an initial coding of the data with my research questions and the Kirkpatrick's model for training program evaluation in mind. However, I also remained opened to emerging issues from the narratives of research participants. I used this initial analysis to develop an analytical framework which I applied to the other two focus group interviews, while checking for any new codes. When I identified any new codes, I went back to the other two interviews to check if they were present in the interviews. I then grouped similar statements together. This allowed for the formation of subcategories which were then assigned to main categories. The unit of analysis of the focus group interview was the group and not the individual participants.

To minimise bias and ensure credibility of the findings (Shenton, 2004), the first focus group transcript that was coded by me was checked by my supervisors, and I also had debriefing sessions with them during the data analysis process. In addition, the manuscript of the findings regarding students' reports of the transfer of learning to practice (Bassah et al., 2016) was given to 4 second year student who took part in the focus groups and were still on campus at the stage when this paper was about to be published, to critique my interpretation of their experiences, prior to publication. Here are the written comments from the four students:

> "can't really comment on the individual reports but globally it reflects what we did and reported especially on communication, providing psychological and spiritual care, rendering activities of daily living" (Student 1).
>
> "Most of the experiences were what we all experienced generally but can't say for all especially students reporting to the social service" (Student 2).
>
> "after having read through meticulously, I discovered that the entire work is an actual transcript of what was discussed. But I can't really say something about the interviews since I took part only in one of the focus groups" (Student 3).
>
> "this reflects our experiences and our discussions in the group that day, but I don't know about what the individual students said in their own interview"(Student 4).

ii. Individual interview data analysis strategies

Data obtained from the individual critical incident interviews and from the focus group interviews pertaining to the questions on students' transfer of their palliative care learning to practice were grouped together. I read them several times in order to become familiar with it. This process enabled the classification of the critical incidents and identification of critical interactions. The data was then categorised, as suggested by Flanagan (1954), into location of experience and type of patient, what student could do/ not do, facilitator, barriers, and other useful characteristics (appendix 9).

In the second stage, I conducted a thematic analysis on the data, using the framework approach. Various qualitative analytical methods used in other critical incident studies include grounded theory, phenomenology and hermeneutics (Schluter et al. 2008, Bradbury-Jones & Tranter 2008). The thematic analysis was however used in this study to explore the richness of the data and to allow themes to emerge from the data (Braun and Clark, 2006).The themes that emerged were classified into subcategories and categories and used to develop an analytical framework that was applied to the rest of the interviews. Although I developed and employed a thematic framework in coding the data, I was open to themes that emerged, based on my research questions and the narratives of research participants. Thus constant examination, re-examination and comparison of interview transcripts was done to identify any new themes that emerged and ensure salient and reliable analysis of students' use of their palliative care learning in practice. For example, if a new theme arose in transcript nine, then transcripts one to eight were read again to ensure that the theme was captured from all of the transcripts. It was however a challenging process, given my lack of experience in analysing critical incident data. This analysis was thus typified by trial and error, persistence and intuition.

4.14 Conclusion

In this chapter I have discussed how I moved from a literature review and gaps identified to formulating research aims, questions, outcomes measures and an evaluation framework. I have also explained the research approach I adopted to address the aim and objectives of the study and the rationale for this choice. I have discussed the research design, considered some philosophical issues regarding this design and justified the use of such a design. I also identified and discussed how I handled some ethical issues of the study. I have also presented the methods of data collection and analysis, as well as the rationale for this. I have also talked about the study setting and sample, the ethical issues and how I gained access to participants. In the next chapter I will discuss the palliative care course development and implementation processes.

CHAPTER 5: DEVELOPING A PALLIATIVE CARE COURSE FOR CAMEROONIAN PREREGISTRATION NURSING STUDENTS

5.1 Introduction

The six step approach to curriculum development by Kern et al, (1998) described in section 4.13.1.1, was used to develop a palliative care course for Cameroonian preregistration nursing students in Cameroon. The processes employed in this course development yielded some significant insights that informed this course development. Prior to this course development a needs assessment was conducted and this entailed: a general needs assessment and an assessment of targeted learners. The findings from these processes are presented in this chapter as well as the details on course aims, objectives, content and educational resources.

5.2 Findings from the general needs assessment for palliative care education

The literature reviews and review of some palliative care core and comparative curricula reported in chapters 1 2 and 3, identified and established the need for preregistration palliative care education in Cameroon. Summarily, it was found that there is a need for palliative care in Cameroon, but competent nurses who have been educated in palliative care to provide this care are lacking. This review also revealed a consensus across the globe that preregistration nursing students should be educated on: pain and symptom management, communication, advance care planning, psychosocial and spiritual care, grief and bereavement management, palliative care service management, education and research. This is to ensure that, as a minimum, they should be competent and feel confident to identify a dying person, communicate in a compassionate, clear and sensitive way about the end of life, implement basic pain and symptoms management strategies, provide spiritual and bereavement support and help people to plan for the end of their lives, among other.

These findings informed the development of a palliative care course for Cameroonian preregistration nursing students.

5.3 Findings from the needs assessment of targeted learners

5.3.1 Findings from the curriculum review

The review of the curriculum of the targeted learners in this study showed it was deficient with regards to its palliative care content. The curriculum did not contain any discrete palliative care course and only had a few palliative care related topics embedded in other courses of the curriculum. Some of these contents, although palliative care related, like that on opioid analgesics in a pharmacology course, are often not presented within the context of the care of people who are approaching the end of life, as would normally be the case in a palliative care course.

In addition, this curriculum was found to be providing students with placement learning opportunities in oncology, general medicine, paediatric, surgical and intensive care units, at different stages of their program. These placements expose students to palliative and end of life care situations, and can serve as experiential learning opportunities for palliative and end of life care. Details of these findings are presented on the table 9.

Table 9: Palliative care related contents in the pilot University's preregistration nursing curriculum

Code and title of course With some palliative care contents	**Palliative care related content in the curriculum document**	**Taught contents in the classroom as recoded in lecture logbook**
NUS 305: Pathophysiologic Nursing Concepts	Death and Dying	1. Death: Post mortem changes; Cooling, rigor mortis, post mortem lividity, putrefaction 2. Dying: Nursing care of the dying 3. The dying person's bills of right 4. The grief process
NUS 308: Pharmacology in nursing	Analgesics	Analgesics
NUS 406: Intensive Care Nursing/Theatre Nursing	Care of the terminally ill	Care of the terminally ill
NUS 502: Oncology Nursing Internship	Student spends a month in an oncology unit and are expected to learn how to provide nursing	Not Applicable

	care to cancer patients and their families	
NUS 503: General medicine internship	Student spends a month in a medical unit and is expected to be able to plan intervention strategies to relieve pain and discomfort caused by a specific disease process	Not Applicable

Furthermore, the library at the Faculty of Health Sciences of this University was found to lack books on palliative care or with palliative care content.

5.3.2 Findings from informal interviews with nurse educators

Based on the informal interviews with some nurse educators in Cameroon, one might say they perceived a need for and seemed very enthusiastic about developing a palliative care course for preregistration nursing education in Cameroon. These nurse educators, when questioned about what content to include in such a course particularly suggested content on pain management, the use of morphine, and psychosocial and spiritual support.

Although these educators felt palliative care education was relevant for preregistration education, they had some concerns about how that was possible, given the lack of educators with formal training on this topic. One of them however shared an experience, in a group discussion, about how she prepared an outline and taught a course on Disaster Nursing in a nurse training institution in the country, without having any formal education on this topic herself. This is what she said:

> "you know, we do not very much have disasters in this country, but we see dying people in the hospital during our everyday practice'. It's just that we have not had time to think about how to properly care for them. To me, it can be easier to study and facilitate students' learning in palliative care, if we have the educational resources, because we work with dying persons everyday".

This was a stimulating experience, as some of the other nurse educators had similar experiences in the teaching of disaster nursing, which they shared with the group. The ideas shared by these educators suggested that the lack of educators, who had been trained in palliative care, could be breached if nurse educators are motivated, enthusiastic, and can use self-directed learning strategies to learn about palliative care. They also said the nurse educators' and students' prior experiences with death and care of the dying, can be a great resource for palliative care education in Cameroon, given that these patients are experienced on a daily basis in the wards. They however felt that they needed palliative care textbooks, manuals and online resources, for self-study in order to be able to facilitate student nurses' learning in the subject of palliative care.

All the educators who received the palliative care course for review reported being happy with the content they had to review, with only one suggestion from a palliative care nurse specialist that content on HIV/AIDS counselling be included. This decision was based on the limited number of HIV/AIDS trained counselors, and the role of the nurse in counselling patients in Cameroon.

5.4 Designing course goals and objectives

Based on the findings of the needs assessment, and detailed study of: some core curricula (APCA, 2012a; ELNEC 2012; EAPC 2004), the EAPC white paper on palliative care education in Europe by Gamondi, Larkin and Payne (2013a,b) and the literature on preregistration palliative care education (Bassah et al., 2014), I came up with the following key features, course aims, contents and educational strategies:

5.4.1 Key features

- Combine both didactic and experiential learning methods to facilitate the integration of theory and practice.
- Incorporate self-reflection and group discussions on challenging palliative and end of life care situations.
- Utilize a variety of assessment strategies, both formative and summative.
- Recognise the logistical problems created by lack of palliative care teaching resources (both human and material), unavailability of specialized placement facilities in palliative care, and the need to find solutions that safeguard the quality of theory and practice learning experience.

5.4.2 Aims

The course was aimed at enhancing students' understanding of the principles and practice of palliative care. It was also directed at equipping students with the skills needed to holistically assess and manage basic palliative care needs of those with life-threatening illnesses and dying persons and their families.

5.4.3 Expected outcomes

It was hoped that students who completed this course should be able to:

- Demonstrate an understanding of the theoretical frameworks shaping palliative and end of life care internationally and its applicability in Cameroon;
- Demonstrate an understanding of key issues and best practice with regard to palliative and end of life care for patients with life-threatening conditions and their families;
- Identify and apply interpersonal communication theories and skills when communicating with patients, their families and other members of the healthcare team about end of life care;
- Carry out comprehensive, systematic, accurate and holistic assessments appropriate to the needs of palliative and end of life patients, using a range of assessment tools and frameworks;
- Proactively create strategies to anticipate, plan, prioritize, and respond appropriately to, monitor and document multiple dimensional needs of patients and their families who are approaching the end of life, including physical, psychosocial, spiritual, and cultural;

- Proactively apply educational strategies to the teaching of patients and their families who are experiencing life's end and other healthcare professionals about palliative care;
- Reflect on/in practice regarding the care of palliative and end of patients with an emphasis upon innovation, modifying practice as appropriate;
- Describe and demonstrate application of the legal, ethical, professional and moral dimensions of the care of the dying;
- Identify and use evidence to inform their practice in the care of the dying and family members;
- Take a lead and advocate for the development of palliative and end of life care services and policies and improvement of palliative and end of life care provision in their place of work.

5.4.4 Structure

This course was developed in keeping with the European Bologna BMP-System (Bachelors-Master-PhD), recommended by the ministry of Higher Education in Cameroon (Table 10). The classroom component of the course was structured in seminar formats, 6 hours a day, weekly for 5 consecutive weeks in one semester. This format was designed in this manner to suit the piloting of the course, as a session with preregistration nurses in the University will often last for 2 hours.

Course time was divided into:

1. 30 Theory hours, which included lecture time, facilitated seminars and practical sessions, within the school of nursing.
2. 10 hours of personal study, which included specific time to be utilized to support theory and practice based learning plus

additional library work. The exact focus of which was to be decided by the student's individual needs.

3. 20 hours of practice, which was to take place in placements, in any setting where nurses care for patients with life-threatening conditions and dying patients.

Table 10: Summary of course structure

Course Title	Credit Value	Status	L (contact)	T (personal study)	P (practice)	Total
Palliative and End of Life Care Nursing	6	C	30	10	20	60
Totals	**6**		**30**	**10**	**20**	**60**

L = Lecture, T = Tutorial, P = Practice, C = Compulsory

It is worth noting that, although the personal study and practice time were allocated at this stage, it was not intended to be monitored during course implementation. This is because it was not feasible for a lone researcher. However, during the classroom sessions (contact time) students were encouraged to study on their own after every session and in preparation for subsequent sessions, and were also encouraged to try implementing palliative care with patients with life threatening conditions, during placement.

5.5 Deciding on the educational strategies for the course

5.5.1 Theoretical framework

The experiential learning model by Kolb (1984), which has been reported as relevant for palliative care education (Wee and Hughes, 2007) was the underpinning theoretical framework for this course. This theory is based on a four stage cyclical model of knowledge development that combines the grasping and transformation of experience by individuals (Figure 8). According to Kolb learning is a process whereby knowledge is created through the transformation of experience. With the experiential learning process of Kolb, learning starts with a concrete experience. The learner then moves on to reflections on that experience. This is followed by the assimilation and distillation of the experiences into abstract concepts and generalizations regarding the experience. In the last stage of the learning cycle there is the testing of new or adjusted concepts through new experience. Kolb however acknowledges that depending on learners' learning styles, they can start their learning at any stage of the cycle (Kolb, 2005). The role of a facilitator in an experiential learning program therefore is to be aware of the influence of learners' learning styles on their learning in order to design activities that can enable them move through other parts of the cycle in an increasing manner (Wee and Hughes, 2007). This choice was informed by my reasoning, and based on the views of the nurse educator during the informal interviews, that this theoretical model will be best suited for palliative care education in a context like Cameroon. In this context, it was "much likely" that a student nurse will have the experience of having lived/is living with someone with a life-threatening condition or have cared for such a person in their families or hospital during prior placements. This is so because of the high rates of HIV/AIDS, the upsurge of other NCCD, and the rise of the ageing population. It was hoped that such experiences will be vital for students' learning during the course. This theoretical framework was also selected because it encourages the use of contextually relevant educational strategies, accommodates all students' learning styles, respects and involves learners' personal experiences, gives students the opportunity to take charge for their learning and encourages deep learning and retention (Beaudin and Quick, 1995).

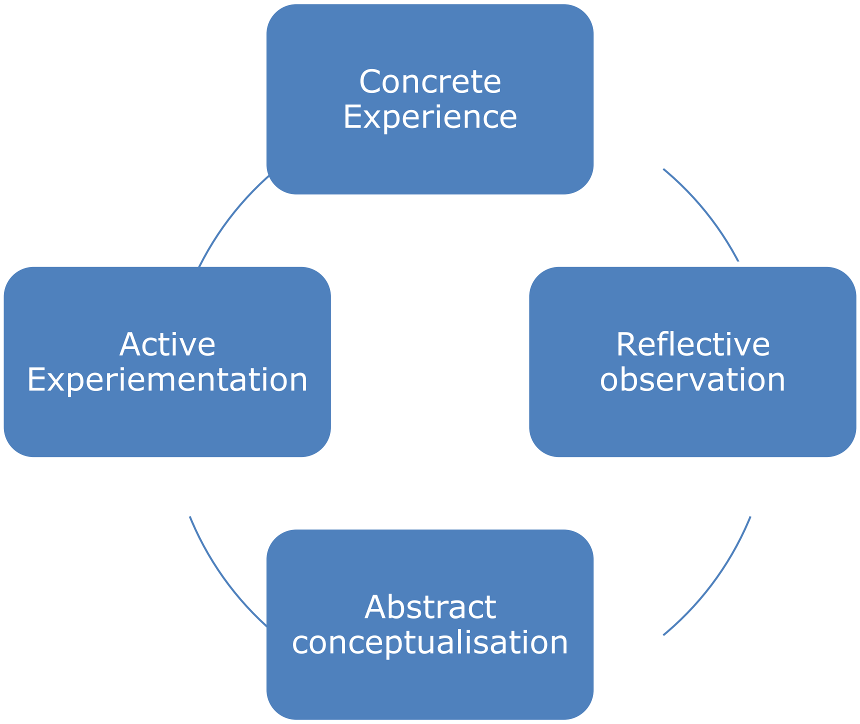


Figure 8: Kolb's experiential learning cycle

5.5.2 Application of the experiential learning theory in this course

Learning activities in this course were created to centre around the learning cycle to give students a variety of ways to master the course contents. It was developed as follows:
Concrete experience: sessions were designed to start with either a case study, videos of real cases, role play, sharing of personal experiences in dying and death to provide students with opportunities for concrete experiences.

Reflective observations: students were allowed time for individual reflections and group discussion during each session and post clinical placement to reflect on the concrete experiences.

Abstract conceptualization: lectures assisted with PowerPoint and videos were used to present theories, concepts and principles related to the various experiences in palliative and end of life care. Personal study and guided study and group discussions were to allow students to explore possible theoretical explanations related to their experiences and observations.

Active experimentation: interactive demonstrations and clinical practice experiences during placement were provided to ensure students apply the learned theories and principles in solving real problems in palliative and end of life care and allow the circle to start over again.

5.5.3 Teaching and learning strategy

The use of the experiential learning theory was to ensure that instructional techniques are designed to be congruent with the specific session content and students' learning styles. Teaching and learning strategies to be utilized included:

- Problem based approach and case studies
- Interactive demonstrations
- Role play
- Small group discussions
- Lectures assisted with PowerPoint and videos
- Clinical practice

The main course manual that served as a reference guide is the Palliative Care Toolkit participants' and trainers' manual, developed by Lavy and Woodridge (2008) and Lavy (2009) respectively. These manuals were published by Help the Hospice-UK and the Worldwide Palliative Care Alliance and made available for use in the training of professionals in palliative care. These manuals have been used for the training of health and social care professionals in other resource poor contexts and early reports suggest a positive impact (Help-the-Hospices, 2015; Palliative Care Works, 2015). Thus was considered suitable for use in Cameroon.

5.5.4 Course content and recommended educational resources

The course was divided into five main modules, and the specific objectives for each module were also developed. Each module was designed to run for 6hours. Details of the modules are presented on table 11. Some selected palliative care textbooks were also recommended for use by the students (box 4).

Table 11: Module contents, expected outcomes, and teaching strategies

Module title	Expected outcomes	Indicative contents	Teaching methods
Introduction to Palliative and End of Life Care	• Define palliative care and associated terms • Demonstrate an understanding of the principles and goals of palliative care and how it can be applied to nursing practice • Identify someone who is in need of palliative care • Describe the various approaches to palliative care and consider their applicability in the Cameroon • Discuss the role of formal and informal caregivers in palliative care • Understanding the role played by the nurse as a member of a multidisciplinary care team in palliative care • Justify the need for palliative care in Cameroon, at service and individual levels	• Concepts and meanings • Overview of morbidity and mortality trends in Cameroon and the need for Palliative care • Introduction to international developments in palliative and end of life care • The principles and goals of palliative care • Recipients and settings of palliative care • Palliative care providers • The Multidisciplinary and interdisciplinary approach to palliative care • Palliative nursing skills and the role of the nurse in palliative care	Lecture assisted with PowerPoint and Small Group discussions
Pain and Symptom Management with Focus at the End of Life	• Describe the types and causes of pain in patients requiring palliative care • Appreciate factors that can impact on and modify pain perception in patients requiring palliative care • Assess and appropriately manage the pain and other symptoms of patients requiring palliative care • Use appropriate pain assessment tools • Employ pharmacologic and non-	• Pain (Definition, types, Causes and factors that modify pain perception) • Pain Assessment (Initial Assessment, Ongoing Assessment, Pain Assessment tools) • Pain Management (General principles, Pharmacologic Management, Non Pharmacologic, Barriers to and strategies for enhancing pain Management • Other symptom management (Nausea and Vomiting, Constipation and	Lecture assisted with PowerPoint and videos, Small Group discussion, Interactive demonstrations, and Case study

	pharmacologic measures in the management of pain and symptoms in patients requiring palliative care • Educate and support patients and their families to appropriately deal with aspects of physical care, symptoms and drugs.	diarrhea, Anorexia, Dyspnea and cough, dermatologic symptoms, Depression, Anxiety, Insomnia, Delirium • Nutrition and Hydration • Patient and Family Teaching	
Communication Skills and Breaking Bad New	• Critically review the theoretical concepts of communication and breaking bad news • Discuss the factors to be considered in relation to good communication, breaking bad news and dealing with difficult situations • Interpret nonverbal clues during communication with patients, their families other members of the health team • Identify communication difficulties in distressed patients and their families • Discuss the effects of stress on communication and performance • Discuss the significance and importance of using a range of communicating strategies with patients • Demonstrate skills in breaking bad news and dealing with difficult situations • Consider the impact of complex communication and breaking bad news on the nurse.	• Communication (Overview of importance of communication in nursing, Verbal/non-verbal/written communication, Communication theories/models, Communication skills and making communication effective, Barriers to effective communication, Identifying blocking/distancing • Breaking Bad news (What is Bad News? When will Bad News impact? Why is breaking bad news problematic? And Bad news protocols) • Counseling HIV/AIDS patients	Lecture assisted with PowerPoint, Videos, Small Group discussion, Case study and role play
Psychosocial, Spiritual, Cultural, Ethical and legal issues in palliative and	• Appreciate the role of psychosocial, cultural and spiritual issues in the care of patients and their families at the end of life • Provide culturally sensitive palliative	• Psychosocial Care (Psychosocial reactions to life-threatening illness and psychosocial distress, Impact of life-threatening illness on patient and family, and Nursing care of patients	Lecture assisted with PowerPoint and small group discussions and case studies

end of life care	and end of life care - Manage basic psychosocial and spiritual concerns of patients and their families - Understand why palliative care is a legal human right - Discuss the key ethical debates in end of life care apply to the decision making process - Manage own self and others to prevent burnouts from palliative and end of life care provision	and their families with psychosocial needs - Spiritual Care (Spiritual and Existential issues at the end of life, The role of the nurse in spiritual care provision) - Cultural care (Family Dynamics, Culture and Belief systems, Cultural assessment, and Providing culturally appropriate nursing care) - Ethical and Legal Issues (Palliative care as a basic Human Right, Ethical Principles in palliative care, Ethical Reasoning, and Recognizing and responding to ethical dilemmas)	
Care at the time of death; Loss, Grief and Bereavement Management	- Recognize and manage a dying person - Reflect on professional experience of death and dying - Provide support to families at the time of and after the death of a patient - Identify, manage and refer at risk family persons for specialist grief management	- Dying, Death and after Death Care (Prognostic difficulties in end of life care, Recognizing Dying, Care during the final hours of death, Caring for family members when death is close and Care after death) - Loss, Grief and Bereavement Management (Stages and types of grief, Assessment of, and intervention in time of grief, Recognizing people who are at risk and may need extra help with their grief, and Long-term grief support) - The Palliative Care Nurse in Grief Management (The impact of working with people who are dying on nurses, Burnout, avoidance and prophylaxis, How can nurses look after themselves? And What do nurses need in order to help others?)	Lecture assisted with PowerPoint, Videos, Case studies and Small Group Discussion

Box 4: Reading and course resource list

- A handbook of palliative care in Africa [Online]. Available At: http://africanpalliativecare.org/
- Becker, R. (2010) Fundamental Aspects of Palliative Care Nursing. 2nd ed. Cromwell Press: Trowbridge
- Kinghorn, S. and Gaines, S. (2007) Palliative Care Nursing: Improving End of life Care. Churchill Livingstone: Edinburg.
- Payne, S. Seymour, J. and Ingleton, C. (2008) Palliative care nursing: principles and evidence for practice. 2nd ed. McGraw-Hill: Open University Press.
- Lavy, V. and Wooldridge, R. (2009) Palliative Care toolkit: improving care from the roots up in resource-limited settings. [online] Available at: http://www.helpthehospices.org.uk. [Accessed 20th January 2013].
- Mari Lloyd-Williams (2008) Psychosocial Issues in Palliative care. 2nd edn. New York: Oxford University Press,
- Qneschuk, Hagen and McDonalds (2012) Palliative Medicine: A case based manual. 3rd edn. Oxford: Oxford University Press
- Addington-Hall, Bruera, Higginson and Payne (2009) Research Methods in Palliative Care
- Wittenberg, Goldsmith, Ferrell and Ragan (2013) Communication in Palliative Nursing
- Goldman, Hain and Liben (2012) Oxford textbook for palliative Care for children. Oxford: Oxford University Press
- Renzenbrik (2011) Caregiver stress and staff support in illness and bereavement. New York: Oxford University Press
- McSherry (2008) Making sense of Spirituality in nursing and healthcare practice
- Regnoid D and Regnard (2011) A guide to symptom relieve in palliative care 2nd edn. Oxford: Radcliffe Publishing
- Vadivelu, Urman and Hines (2011) Essentials of pain management. Springer.
- Knapp, Madden and Fouler-Kery (2012) Pediatric palliative Care: the global perspective. Springer.
- Peter Hudson and Shiela Payne (2009) Family Carers in Palliative care
- Manroe and Payne (2011) Death, Dying and social differences. 2nd Edn. New York: Oxford University Press.
- The institute of cancer research CDRom (2008): Breaking Barriers: management of cancer related pain.
- ELNEC pediatric palliative care train-the-trainer program CDRom (2013)
- Dying Matters Pal Video DVD(2012): Dying for a laugh; Last laugh with Alexel Sayle
- Dying Matters DVD (2009): A party for Kath.
- Dying Matters DVD (2011): One chance to get it right: why dying matters to me
- Dying Matters DVD(2012): Dying to know
- Dying Matters DVD(2011): We are living well but dying matters
- The University of Sheffield, School of Nursing and Midwifery: Introduction to palliative and end of life care training manual

5.6 Course development and implementation budget

The budget used for the development and implementation of this course is presented on table 12 below.

Table 12: Course development and implementation budget

Item	Amount	Unit Price	Total Cost	Comment
Participants' and facilitators course manuals	85 copies		£520	Funded by the University of Nottingham UK.
Books and other educational resources from Nottingham				
Transportation, motivation and lunch for facilitators	5 facilitators	£40 each	£200	Personal funds
Motivation for classroom Assistant	30 hours	£4.00 per hour	£120	
Transportation of 3rd year students from Limbe to Campus and back	Hired a Bus	-	£145	
Course flyers and posters	3 posters 85 Flyers	£30 £30	£60	
Course certificates	64	£2.00	£128	
Transportation:			£135	
To Bamenda to print course manuals and apply for one of the palliative care nurses to be part of the course	3 round trips	£85		
To Limbe, Mutegene, and around town, where the study was conducted, to the workplace of course facilitators to solicit their participation in the course facilitation	2 round trips to Limbe; 5 round trips to Mutegene; and 3 round trips within town	£20		
To and from the pilot	-	£30		

University during the project				
Communication (telephone, emails, letters)	-	-	£75	
Pens, pencils, Markers, A4 sheets	Pens(motivation to participating students, and to facilitators) 10 pencils, 6 markers, flipcharts, cardboards and 3 rim A4 sheets		£50	
Total			**£1433**	

5.7 Conclusion

In this chapter I have presented the findings from the processes that I followed to develop and implement a palliative care course with preregistration student nurses in one University in Cameroon. I have also presented the budget and resources used for these processes.

The findings suggest that there is a need for palliative care in Cameroon, but there is scarcity of palliative care trained healthcare professionals who can provide palliative care. It showed that the preregistration nurse training curriculum of the pilot University was deficient in its palliative care content. It suggests that nurse educators and palliative care specialist nurses in Cameroon are in support of and are enthusiastic about palliative care education. These findings informed the development of a 30 hour classroom based palliative care course for Cameroonian preregistration nursing students. This chapter has presented the content, educational strategies and resources and the underpinning theoretical framework for a palliative care course developed for Cameroonian preregistration nursing students.

In the next chapter, I present findings from the quantitative survey and the focus groups on the impacts of the palliative care course on students’ palliative care knowledge and self-perceived competence and confidence in palliative care provision.

CHAPTER 6: EVALUATION OF THE IMPACT OF THE PALLIATIVE CARE COURSE

6.1 Introduction

This chapter reports findings from the quantitative and qualitative component of this study, which was aimed at evaluating the impact of the palliative care course on student nurses' palliative care knowledge and self-perceived competence and confidence in palliative care provision. It also examined whether students' demographic characteristics were associated with the observed quantitative changes. Quantitative data was collected using a questionnaire consisting of three subscales: the PCQN, self-perceived competence and confidence in palliative care and a demographic subscale described in details in chapter 4. Qualitative data was collected via focus groups, transcribed verbatim and analysed using the thematic analysis. Section 6.3 presents findings from the quantitative evaluation of the course and section 6.4 presents the findings from the qualitative evaluation of the course.

6.2 Demographic profile of the respondents

Sixty–nine students completed the pretests and 64 (92.75%) completed the posttest. The 69 students who took the pretest were those who started the course on the first day while the 64 students for the posttest were those who completed all five sessions of the course. Of the 69 students who took part in the pretest, 31 (44.93%) were second year students and 38

(54.07%) were in the third year. Most [37(53.6%) of them were 21 years and above and a majority [59(85.5%)] were females. A greater majority of these students [27 (39.1%)] were Catholics. At baseline, 50(72.5%) students reported that they had no prior experience in caring for a dying person and 52(75.4%) stated they had not received any prior education in palliative care. Table 13 provides details of participants' age, gender, level in their nursing course, religious affiliations, previous experience in the care of the dying, and previous education about palliative care.

Of the 64 students who completed the course, 23 (35.9%) took part in the focus groups, 7 (30.4%) males and 16 (69.6%) females. Twelve (52.2%) of these students were from the 2nd year class and 11(47.8%) from third year. One third year student did not show up for the focus group. Ten students (15.6%) participated in the individual interviews, 3 (30%) males and 7 (70%) females. Two (20%) of the students for the individual interviews were from the second year, while 8 (80%) were from the third year.

Table 13: Demographic information of participants

Variable	**Categories**	**Frequency (n=69)**	**Percentage (%)**
Gender	Male	10	14.49
	Female	59	85.51
Level in nursing program	Year 2	31	44.93
	Year 3	38	54.07
Age	18-20 years	32	46.4
	>20years	37	53.6
Previous experience in care of the dying	Yes	19	27.54
	No	50	72.46
Previous education in	Yes	17	24.64

palliative care n (%)	No	52	75.36
Religion n (%)	Catholic	27	39.13
	Presbyterian and Baptist	24	34.78
	Others	18	26.09

6.3 Quantitative evaluation of course impact

6.3.1 Impact of the course on students' palliative care knowledge

6.3.1.1 Students' pre-course palliative care knowledge

Before the course the overall palliative care knowledge of this group of students was quite poor, with a mean score of 5.72/20 (Standard deviation of 2.54; Confidence Interval: 5.11-6.34). The highest score achieved was 13/20 and the lowest was 1/20.

With regards to the individual items on the PCQN, no student knew before the course that placebos are not appropriate in the treatment of pain in palliative care. Only 3 (4.3%) knew that 'the philosophy of palliative care is compatible with that of aggressive treatment'; and only 4 (5.8%) knew that 'drug addiction is not a major problem when morphine is used on a long-term basis for the management of pain'.

Nevertheless, there were a few questions where a considerable number of students could answer correctly before the course. Up to 63 (91.3%) students knew that the manifestations of chronic pain are different from those of acute pain. In addition, 40 (58%) knew that the provision of palliative care does not require emotional detachment, and up to 38(55.1%) student knew that suffering and physical pain are not synonymous.

6.3.1.2 Students' posts-course palliative care knowledge

After the course, the mean score of the students' palliative care knowledge was 11.36 (SD= 2.03, CI 10.85-11.87). Scores ranged from 3/20 to 18/20. Overall, there was a statistically significant improvement in the palliative care knowledge of this student group from pretest to posttest (Paired sample t-test; P = 0.000).

With regard to the individual items on the PCQN, the number of students, who answered correctly in the posttest, was higher for 19 of the 20 questions. The only exception was for the item: 'the provision of palliative care requires emotional detachment', where 40 students knew the right response before the course, but this dropped to 38 students, after the course.

There were three questions where a considerable number of students who did not know the correct response before the course, knew it after. Thirty-one (48.4%) students who wrongly identified in the pretest that the use of placebos are appropriate in the treatment of some types of pain, correctly identified in the posttest that they are not appropriate. Moreover, up to 42 (65.6%) students who did not know before, knew after the course that individuals who are taking opioids should also follow a bowel regimen, and 36(56.3%) new students could identify after the course that tramadol is not an effective analgesic for the control of chronic pain.

However, there were still questions where a good number of students did not know the correct answer after the course. Most students [55(85.9)] still struggled with their knowledge regarding whether ‘the loss of a distant or contentious relationship is easier to resolve than the loss of one which is close or intimate’. In addition, up to 48 (75%) students did not know that ‘the philosophy of palliative care is compatible with that of aggressive treatment’ and that ‘during the terminal stages of an illness, drugs that can cause respiratory depression are appropriate for the treatment of severe dyspnea’.

The total number of correct responses to the individual questions on the PCQN questionnaire before and after the course is shown on table 14, with the overall percentages in bracket. The correct response to each question is also presented.

Table 14: Correct and incorrect responses on the PCQN before and after the course

SN	**Questions**	**Correct answer**	**Number of correct and incorrect responses before and after the course**			
			Before (n=69) (%)		**After (n=64) (%)**	
			Correct	Incorrect	Correct	Incorrect
1	Palliative care is only appropriate in a situation where there is evidence of a downhill trajectory or deterioration	False	28(40.6)	41(59.4)	55(85.9)	9(14.1)
2	Morphine is the standard used to compare the analgesic effect of other opioids	True	33(47.8)	36(52.2)	59(92.2)	10(15.6)
3	The extent of the disease determines the method of pain	False	6(8.7)	63(91.3)	21(32.8)	43(67.2)

	treatment					
4	Adjuvant therapies are important in managing pain	True	34(49.3)	35(50.7)	59(92.2)	10(15.6)
5	It is crucial for family members to remain at the bedside until death occurs	False	13(18.8)	56(81.2)	18(28.1)	46(71.9)
6	During the last days of life, drowsiness associated with electrolyte imbalance may decrease the need for sedation	True	36(52.2)	33(47.8)	44(68.7)	20(31.3)
7	Drug addiction is a major problem when morphine is used on a long-term basis for the management of pain	False	4(5.8)	65(94.2)	20(31.3)	44(68.7)
8	Individuals who are taking opioids should also follow a bowel regime	True	13(18.8)	56(81.2)	55(85.9)	9(14.1)
9	The provision of palliative care requires emotional detachment	False	40(58.0)	29(42.0)	38(59.4)	26(40.6)
10	During the terminal stages of an illness, drugs that can cause respiratory depression are appropriate for the treatment of severe dyspnea	True	8(11.6)	61(88.4)	16(25.0)	48(75.0)
11	Men generally reconcile their grief more quickly than women	False	8(11.6)	61(88.4)	20(31.3)	44(68.7)
12	The philosophy of palliative care is compatible with that of aggressive treatment	True	3(4.3)	66(95.7)	16(25.0)	48(75.0)

13	The use of placebos is appropriate in the treatment of some types of pain	False	0(0.00)	69(100)	31(48.4)	33(51.6)
14	In high doses codeine causes more nausea and vomiting than morphine	True	12(17.4)	57(82.6)	38(59.4)	26(40.6)
15	Suffering and physical pain are synonymous	False	38(55.1)	31(44.9)	50(78.1)	14(21.9)
16	Tramadol is not an effective analgesic for the control of chronic pain	True	10(14.5)	59(85.5)	46(71.9)	18(28.1)
17	The accumulation of losses renders burnout inevitable for those who work in palliative care	False	16(23.2)	53(76.8)	21(32.8)	43(67.2)
18	Manifestations of chronic pain are different from those of acute pain	True	63(91.3)	6(8.7)	64(100)	0(0.00)
19	The loss of a distant or contentious relationship is easier to resolve than the loss of one that is close or intimate	False	6(8.7)	63(91.3)	14(21.9)	50(78.1)
20	Pain thresholds is lowered by fatigue or anxiety	True	34(49.3)	35(50.7)	42(65.6)	22(34.4)

McNemars test was used to assess the proportion of students who knew before to the proportion of students who knew after. Much specifically, it assessed whether the number of students who did not know the correct answer before but knew it after (students who improved) was greater than the number of students who knew the correct answer before but did not know it after (students who deteriorated). The result from this analysis indicated a highly significant improvement for most of the individual questions on the PCQN (P<.05) (Table 15).

However, the questions: ‘It is crucial for family members to remain at the bedside until death occurs’ (question 5; P=.286), ‘the provision of palliative care requires emotional detachment’ (question 9; P=1.0), and ‘the accumulation of losses renders burnout inevitable for those who work in palliative care’ (question 17; P=.383) indicated no significant improvement.

Table 15: Students' pre and post course palliative care knowledge scores for the individual items of the PCQN

	Answer known before/after palliative care course				
Item	**Yes/yes**	**Yes/No**	**No/Yes**	**No/No**	**P-value**
Palliative care is only appropriate in a situation where there is evidence of a downhill trajectory or deterioration	24 (37.5%)	2 (3.1%)	31 (48.4%)	7 (10.9%)	0.000***
Morphine is the standard used to compare the analgesic effect of other opioids	30 (46.9%)	1 (1.6%)	29 (45.3%)	4 (6.25%)	0.000***
The extent of the disease determines the method of pain treatment	2 (3.1%)	2 (3.1%)	19 (29.7%)	41 (64.1%)	0.000***
Adjuvant therapies are important in managing pain	31 (48.4%)	1 (1.6%)	27 (42.2%)	5 (7.8%)	0.000***
It is crucial for family members to remain at the bedside until death occurs	4 (6.25%)	8 (12.5%)	14 (21.9%)	38 (59.4%)	0.286
During the last days of life, drowsiness associated with electrolyte imbalance may decrease the need for sedation	26 (40.6%)	8 (12.5%)	18 (28.1%)	12 (18.8%)	0.076*
Drug addiction is a major problem when morphine is used on a long-term basis for the management of pain	-	4 (6.25%)	20 (31.2%)	40 (62.5%)	0.002***
Individuals who are taking opioids should also follow a bowel regime	11 (17.2%)	2 (3.1%)	44 (68.8%)	7 (10.9%)	0.000***
The provision of palliative care requires emotional detachment	27 (42.2%)	11 (17.2%)	11 (17.2%)	15 (23.4%)	1.000
During the terminal stages of an illness, drugs that can cause respiratory depression are appropriate	4 (6.25%)	3 (4.7%)	12 (18.8%)	45 (70.3%)	0.035**

for the treatment of severe dyspnea					
Men generally reconcile their grief more quickly than women	2 (3.1%)	5 (7.8%)	18 (28.1%)	39 (60.9%)	0.011**
The philosophy of palliative care is compatible with that of aggressive treatment	1 (1.6%)	2 (3.1%)	15 (23.4%)	46 (71.9%)	0.002***
The use of placebos is appropriate in the treatment of some types of pain	-	-	31 (48.4%)	33 (51.6%)	-
In high doses codeine causes more nausea and vomiting than morphine	8 (12.5%)	3 (4.7%)	30 (46.9%)	23 (35.9%)	0.000***
Suffering and physical pain are synonymous	26 (40.6%)	8 (12.5%)	24 (37.5%)	6 (9.4%)	0.007**
Tramadol is not an effective analgesic for the control of chronic pain	7 (10.9%)	2 (3.1%)	39 (60.9%)	16 (25%)	0.000***
The accumulation of losses renders burnout inevitable for those who work in palliative care	8 (12.5%)	8 (12.5%)	13 (20.3%)	35 (54.7)	0.383
Manifestations of chronic pain are different from those of acute pain	59 (92.2%)	-	5 (7.8%)	-	-
The loss of a distant or contentious relationship is easier to resolve than the loss of one that is close or intimate	3 (4.7%)	3 (4.7%)	11 (17.2%)	47 (73.4%)	0.057*
Pain thresholds is lowered by fatigue or anxiety	19 (29.7%)	4 (6.25%)	23 (35.9%)	18 (28.1%)	0.00***
*****P-Value<0.01 (Significant at 1%) ; **P-Value<0.05 (Significant at 5% ; *P-Value<0.1 (Significant at 10%)**					
Source : Author's Calculation					

6.3.1.3 Impact on students' knowledge with regards to the subthemes of the PCQN

The PCQN is partitioned into themes including: principles of palliative care (consisting of 4 questions: 1, 9, 12 and 17), pain and symptom management (consisting of 13 questions: 2-4, 6-8, 10, 13-16, 18 and 20) and psychosocial and spiritual care of patients and their families (consisting of 3 questions: 5, 11 and 19). For this anlysis, the total number of correct responses before and after the course for each student within a subtheme was calculated. The proportion of correct responses before was compared to the proportion of correct responses after the course.

a. Philosophy of palliative care

Before the course, only 5(7.8 %) students scored 3 or 4 questions correctly out of the 4 questions that make up this theme, but after the course, this improved to 19(29.7%). Concerning the individual questions that make up this theme, there was a significant change in the students' level of knowledge on question 1 which relates to the principles of palliative care. After the course, 31(48.4%) students who did not know that palliative care is not appropriate only in situations where there is evidence of a downhill trajectory or deterioration, before the course, knew it after (Table 16). This showed a trend towards a positive change (p=0.000). Although the number of students with correct responses generally increased for the other three items of this theme, as many as 11 students (17.2%) who could correctly respond that the provision of palliative care does not require emotional detachment, changed their minds and wrongly identified that it required emotional detachment. On the other hand, up to 35 (54.7%) students who did not know before the course that the accumulation of losses render burnout inevitable for those who work in palliative care still did not know it after, and 8 students who knew the right response for this item changed their minds. In addition, more than half of the students [48(75%)] still did not know at the end of the course that the philosophy of palliative care is compatible with that of aggressive treatment.

b. Pain and symptom management

Before the course, only 4(6.2%) students scored 8 or more out of the 13 questions that make up this theme, but after the course, up to 49(76.6%) students scored 8 and above on 13. There was a statistically significant change on students' level of knowledge on four questions relating to pain and symptom management after the course. These included students' knowledge: on following a bowel regimen when taking opioids, that tramadol is not an effective analgesic in the control of chronic pain, that the use of placebos is not appropriate in the treatment of any types of pain, and that in high doses codeine causes more nausea and vomiting than morphine (table 16).

In addition to these items, there were other pain management related items with significant increases. Twenty nine (45.3%) students, who did not know before the course that morphine is the standard used to compare the analgesic effect of other opioids before the course, knew it after. Similarly, 27(42.2%) who did not know before the course that adjuvant therapies are important in managing pain knew it after and 24(9.4%) new students also got to know that suffering and physical pains are not synonymous.

Notwithstanding these increases, as many as 43(67.2) students still had difficulties identifying that the extent of the disease does not determine the method of pain treatment. Similarly, as many as 48 (75%) students still could not identify that during the terminal stages of an illness, drugs that can cause respiratory depression are appropriate for the treatment of severe dyspnea.

c. Psychosocial and spiritual care

Although the number of students who gave the correct answer to the questions that makes up this subtheme generally improved after the course, a good number of them still struggled with their understanding of psychosocial and spiritual care. After the course, about 29(42.2%) students still scored 0 out of the 3 questions that make up this theme and no student had all 3 questions correctly. Up to 50(78.1%) could not identify that the loss of a distant or contentious relationship is not easier to resolve than the loss of one that is close or intimate. More so, as many as 44(68.8%), still did not know that men do not generally reconcile their grief more quickly than women and 46 (71.9%) could still not identify that it is not crucial for family members to remain at the bedside until death occurs (table 16).

Table 16: Proportion of correct responses before and after the course for the subthemes on the PCQN

Subthemes	Proportion of correct responses before intervention (in %)	Proportion of correct responses after intervention (in %)	P-Value
Principles of palliative care			
0 correct responses out of 4 questions	15.6	3.1	0.001
1 correct responses out of 4 questions	46.9	25.0	
2 correct responses out of 4 questions	29.7	42.2	
3 or 4 correct responses out of 4 questions	7.8	29.7	
Pain and symptom management			
5 correct responses out of 13 questions	78.1	3.1	0.000
6 correct responses out of 13 questions	14.1	9.4	
7 correct responses out of 13 questions	1.6	10.9	
8-13 correct responses out of 13 questions	6.2	76.6	
Psychosocial and spiritual care for patients and their families			
0 correct responses out of 3 questions	67.2	42.2	0.021
1 correct responses out of 3 questions	26.6	35.9	
2 correct responses out of 3 questions	6.2	21.9	

6.3.1.4 Predictors of students' palliative care knowledge and change in knowledge

Six demographic factors were examined for their influence on students' pre-course (pretest) palliative care knowledge scores. Students' level in the nursing course and age were seen to be associated with students' pre-course scores (P=0.002 and 0.027 respectively). Third year nursing students had a higher mean score of 6.58 compared to second year students who had a mean score of 4.68. In addition, students who were aged 21 and above had a higher mean score of 6.35, compared to those who were aged 18-20 who had a mean score of 5.00. The other 4 demographic variables were not found to influence students' pre-course knowledge. They included; previous palliative care education, previous experience in the care of the dying, gender, and region.

These demographic factors were also examined for their influence on the post-course (posttest) palliative care knowledge scores. There was no association between any of these demographic variables and the post-course scores (P>0.05).

6.3.2 Impact on students' self-perceived competence and confidence in palliative care (SPCCPC)

6.3.2.1 Pre-course self-perceived competencies

Before the course, students rated quite highly their competence/confidence in the various palliative care competencies measured using the SPCCPC scale. A majority of these students either 'agreed' or 'strongly agreed' that they were competent and/or confident (table 17), with less than 10(14.5%) who either 'strongly disagreed' or 'disagreed' for most of the competencies. The mean overall rating for the pretest was 4.04/5.

The competencies with the greatest number of 'strongly agree' responses included: I understand the concept of holistic care (68.1%), I recognise that my role is vital in delivering good end of life care (59.4), I understand how society and culture influences attitudes to dying and death (39.1%), and I recognise it is part of my role to find out what is known about a person's wishes should they lose capacity (39.1%).

The competencies with the lowest number of 'strongly agree' responses were: I am comfortable discussing a person's anxiety about the dying process and what will happen (12.5%), I feel able to recognise when a person is dying (13.0%), and I am confident about helping people with the common symptoms they may experience at the end of life (18.8%).

6.3.2.2 Post-course self-perceived competencies

After the course, the number of students who ‘strongly disagreed’, ‘disagreed’ or were ‘neutral’ about their competence decreased, and those who ‘agreed’ or ‘strongly agreed’ increased for all the competencies. For example:

- Before the course, 10(14.5%) students disagreed, and 21(30.4%) were neutral about their ability to recognise when a person is dying. After the course, these reduced to 4(6.3%) and 6(9.4%) respectively, and those whose ‘strongly agreed’ increased from 9(13%) to 18(28%).
- Before the course, the number of students who ‘disagreed’ that they felt comfortable discussing a person’s anxiety about the dying process and what will happen reduced from 17(24.6%) to 6(9.4%) after the course, and those who ‘agreed’ increased from 13(20.3%) to 28 (43.8%).
- Before the course, the number of students who were ‘neutral’ about their confidence to discuss with the wider care team patients’ views about their future care reduced from 10(14.5%) to 4(6.3%) and those who ‘strongly agreed’ increased from 29(45.3%) to 43(67.2%) (table 17).

The overall posttest mean rating was 4.36/5. The posttest mean score for most of the individual competencies was equal to or greater than 4. The only exception was for competency item 13 (I am comfortable discussing a person’s anxiety about the dying process and what will happen) with a mean score of 3.56. The competencies with the highest posttest mean score was ‘I feel competent to recognise a person’s verbal/non-verbal cues’ and ‘I understand the concept of holistic care’ at 4.90/5 each.

Table 17: Frequency distribution of students' rating of their competencies before and after the course

		Frequency of students' responses before and after									
SN	**Item**	**Strongly disagree**		**Disagree**		**Neutral**		**Agree**		**Strongly agree**	
		Before N=69	After N=64	Before N=69	After N=64	Before N=69	After N=64	Before N=69	After N=64	Before N=69	After N=64
Communication skills											
1	I feel confident to listen to and talk with a dying person about issues surrounding their death	1 (1.4%)	-	6 (8.7%)	4 (6.25)	13 (18.8%)	5 (7.8%)	24 (34.8%)	37 (57.8)	25 (36.2)	18 (28.1%)
2	I feel confident to listen to and talk with a relative of a dying person	1 (1.4%)	-	7 (10.9)	1 (1.6%)	6 (8.7%)	4 (6.25)	29 (42%)	29 (45.3%)	26 (37.7%)	30 (46.9%)
3	I feel confident to communicate with a person with advancing illness who says to me 'I can see no meaning in life'	3 (4.3%)	-	7 (10.9)	3 (4.7%)	4 (5.8%)	6 (9.4%)	22 (31.9%)	27 (42.2%)	33 (47.2%)	28 (43.8%)
Competencies											
4	I feel competent to recognise a person's verbal/non-verbal cues	-	-	6 (8.7%)	2 (3.1%)	13 (18.8%)	7 (10.9)	33 (47.2%)	36 (56.3%)	17 (24.6%)	19 (29.7%)
5	I feel confident that I can address a person's verbal/non-verbal cues	-	-	4 (5.8%	5 (7.8%)	22 (31.9%)	8 (12.5%)	27 (39.1%)	36 (53.6%)	16 (23.3%)	15 (23.4%)
6	I feel confident that people in my care have given 'informed consent' before starting treatment	-	1 (1.6%)	7 (10.9)	1 (1.6%)	6 (8.7%)	5 (7.8%)	26 (37.7%)	15 (23.4%)	30 (43.5%)	42 (65.6%)
Assessment and care planning											
7	I understand the concept of holistic care	-	-	-	-	2 (3.1%)	-	20 (29%)	6 (9.4%)	47 (68.1)	58 (90.6%)
8	I use holistic assessment with people in my care	-	-	3 (4.3%)	1 (1.6%)	17 (24.6%)	6 (9.4%)	19 (27.5%)	24 (37.5%)	30 (43.5%)	33 (51.6%)
9	I feel able to recognise when a person is dying	1 (1.4%)	-	10 (14.5%)	4 (6.25)	21 (30.4%)	6 (9.4%)	28 (40.6%)	36 (53.6%)	9 (13.0%)	18 (28.1%)
Symptom Management, Maintaining Comfort and Wellbeing											
10	I am confident about	-	-	1	-	8	4	33	38	27	22

	helping people with their pain			(1.4%)		(11.6%)	(6.25)	(47.2%)	(59.4%)	(39.1%)	(34.4%)
11	I am confident in using things other than drugs to help people to cope	-	-	-	-	5 (7.8%)	1 (1.6%)	33 (47.2%)	30 (46.9%)	31 (45%)	33 (51.6%)
12	I am confident in how to support a person in distress	-	-	2 (3.1%)	1 (1.6%)	13 (18.8%)	8 (12.5%)	35 (50.7%)	39 (60.9%)	19 (27.5%)	16 (25%)
13	I am comfortable discussing a person's anxiety about the dying process and what will happen	5 (7.2%)	-	17 (24.6%)	6 (9.4%)	26 (37.7%)	23 (35.9%)	13 (18.8%)	28 (43.8%)	8 (12.5%)	7 (10.9)
14	I am confident about helping people with the common symptoms they may experience at the end of life	6 (8.7%)	-	7 (10.9)	2 (3.1%)	20 (29%)	4 (6.25)	23 (33.3%)	33 (51.6%)	13 (18.8)	25 (39.1%)
Advance Care Planning											
15	I recognise it is part of my role to find out what is known about a person's wishes should they lose capacity	1 (1.4%)	-	3 (4.3%)	1 (1.6%)	10 (14.5%)	3 (4.7%)	19 (27.5%)	13 (20.3%)	36 (39.1)	47 (73.4%)
16	If a person shares with me views about their future care, with permission, I would feel confident to discuss this with the wider care team	1 (1.4%)	1 (1.6%)	6 (8.7%)	3 (4.7%)	10 (14.5%)	4 (6.25)	23 (33.3%)	13 (20.3%)	29 (42%)	43 (67.2%)
Overarching Values and Knowledge											
17	I have thought about what is important to me in the meaning of my life	1 (1.4%)	1 (1.6%)	-	1 (1.6%)	7 (10.1)	7 (1.6%	30 (43.5%)	20 (31.3%)	31 (45%)	33 (51.6%)
18	I recognise that my role is vital in delivering good end of life care	-	-	2 (3.1%)		-	1 (1.6%)	26 (37.7%)	13 (20.3%)	41 (59.4%)	50 (78.1%)
19	I understand how society and culture influences attitudes to dying and death	-	-	2 (3.1%)	1 (1.6%)	6 (8.7%)	3 (4.7%)	25 (36.2%)	21 (32.8%)	36 (52.2%)	39 (60.9%)
20	I feel confident to be able to support a bereaved person	1 (1.4%)	1 (1.6%)	4 (5.8%	1 (1.6%)	10 (14.5%)	3 (4.7%)	31 (44.9%)	28 (43.8%)	23 (33.3%)	31 (48.4%)

In order to assess the direction of students' change, after the course, I created a new variable, the 'change variable', which investigated if there had been an increase (+1), no change (0) or a decrease (-1) in students' perception of their competence and confidence in palliative care provision after the course. The result from this analysis is presented on table 18 below.

Generally for most of the competencies, a majority of the students did not experience any change. This was particularly for their understanding of: the concept of holistic care (42 students did not change), how society and culture influences attitudes to dying and death (39 students did not change), and their confidence in using things other things than drugs to help people to cope with their pain (38 students did not change).

Students mostly experienced an increase in their ability to recognise when a person is dying (33 students increased), their confidence about helping people with the common symptoms they may experience at the end of life (34 students increased) and their comfort in discussing a person's anxiety about the dying process and what will happen (29 students increased).

They mostly decreased in: their confidence to listen to and talk with a dying person about issues surrounding their death (20 students decreased) and their confidence to communicate with a person with advancing illness who says: 'I can see no meaning (18 students decreased).

Table 18: Direction of change in students' perception of their competencies after the course

SN	Item	Frequency of students who increase (+1) (n=64)(%)	Frequency of students with no change (0) (n=64)(%)	Frequency of students who decrease (-1) (n=64)	Pretest Mean	Posttest mean
1	I feel confident to listen to and talk with a dying person about issues surrounding their death	21 (32.8%)	23 (35.9%)	20 (31.3%)	3.956	4.078
2	I feel confident to listen to and talk with a relative of a dying person	21 (32.8%)	32 (50%)	11 (17.2%)	4.043	4.375
3	I feel confident to communicate with a person with advancing illness who says to me 'I can see no meaning in life'	15 (23.4%)	31 (48.4%)	18 (28.1%)	4.087	4.250
4	I feel competent to recognise a person's verbal/non-verbal cues	23 (35.9%)	24 (37.5%)	17 (26.6%)	3.884	4.900
5	I feel confident that I can address a person's verbal/non-verbal cues	22 (34.4%)	25 (39.1%)	17 (26.6%)	3.797	3.953
6	I feel confident that people in my care have given 'informed consent' before starting treatment	26 (40.6%)	28 (43.8%)	10 (15.6%)	4.144	4.500
7	I understand the concept of holistic care	19 (29.7%)	42 (65.6%)	3 (4.7%)	4.652	4.906
8	I use holistic assessment with people in my care	26 (40.6%)	24 (37.5%)	14 (21.9%)	4.101	4.390
9	I feel able to recognise when a person is dying	33 (51.6%)	19 (29.7%)	12 (18.6%)	3.492	4.062
	I am confident about helping people with their pain	16 (25%)	32 (50%)	16 (25%)	4.246	4.281
11	I am confident in using things other than drugs to help people to cope with pain	15 (23.4%)	38 (59.4%)	11 (17.2%)	4.376	4.500
12	I am confident in how to support a person in distress	18 (28.1%)	29 (45.3%)	17 (26.6%)	4.029	4.093
13	I am comfortable discussing a person's anxiety about the dying process and what will happen	29 (45.3%)	25 (39.1%)	10 (15.6%)	3.029	3.562
14	I am confident about helping people with the common symptoms they may experience at the end of life	34 (53.1%)	21 (32.8%)	9 (14.1%)	3.434	4.265
15	I recognise it is part of my role to find out what is known about a person's wishes should they lose capacity	24 (37.5%)	35 (54.7%)	5 (7.8%)	4.246	4.656
16	If a person shares with me views about their future care, with permission, I would feel confident to discuss this with the wider care team	25 (39.1%)	30 (46.7%)	9 (14.1%)	4.058	4.468
17	I have thought about what is important to me in the meaning of my life	14 (21.9%)	36 (56.3%)	14 (21.9%)	4.304	4.359

18	I recognise that my role is vital in delivering good end of life care	19 (29.7%)	33 (51.6%)	12 (18.6%)	4.536	4.765
19	I understand how society and culture influences attitudes to dying and death	18 (28.1%)	39 (60.9%)	7 (10.9%)	4.376	4.531
20	I feel confident to be able to support a bereaved person	25 (39.1%)	28 (43.8%)	11 (17.2%)	4.029	4.359

McNemars test and McNemar Bowker test, where applicable, was used to assess whether the change in students' perceived competence and confidence in palliative care provision was significant. It was observed that for most of the individual competencies, the change experienced by students was not significant (P>0.05). There were only 6 competencies with significant improvements: I feel confident that people in my care have given 'informed consent' before starting treatment (item 6; P=.038), I understand the concept of holistic care (Item 7, P=.001), I feel able to recognise when a person is dying (item 9; P=.003), I am comfortable discussing a person's anxiety about the dying process and what will happen (item, 13; P=.015), I am confident about helping people with the common symptoms they may experience at the end of life (item 14; P=.000) and I recognise it is part of my role to find out what is known about a person's wishes should they lose capacity (item 15; P=.029).

However, positive trends were observed for a few competencies including: 'I use holistic assessment with people in my care' (items 8; P=.071), 'If a person shares with me views about their future care, with permission, I would feel confident to discuss this with the wider care team' (item 16; P=.075) and 'I recognise that my role is vital in delivering good end of life care' (item 18; P = .093). This is shown in detail on table 19.

Table 19: Non parametric test results for individual competencies

S N	Item	X^2 Value	Df	Asymp. Sig
Communication skills				
1	I feel confident to listen to and talk with a dying person about issues surrounding their death	8.333	5	.139
2	I feel confident to listen to and talk with a relative of a dying person	6.863	6	.334
3	I feel confident to communicate with a person with advancing illness who says to me 'I can see no meaning in life'	9.222	5	.101
4	I feel competent to recognise a person's verbal/non-verbal cues	6.529	6	.367
5	I feel confident that I can address a person's verbal/non-verbal cues	9.409	6	.152
6	I feel confident that people in my care have given 'informed consent' before starting treatment	11.762	5	.038
Assessment and care planning				
7	I understand the concept of holistic care			.001
8	I use holistic assessment with people in my care	11.611	6	.071
9	I feel able to recognise when a person is dying	19.460	6	.003
Symptom management				
10	I am confident about helping people with their pain	3.391	3	.335
11	I am confident in using things other than drugs to help people to cope	3.043	3	.385
12	I am confident in how to support a person in distress	3.583	5	.611
13	I am comfortable discussing a person's anxiety about the dying process and what will happen	15.800	6	.015
14	I am confident about helping people with the common symptoms they may experience at the end of life	23.638	5	.000
Advance care planning				
15	I recognise it is part of my role to find out what is known about a person's wishes should they lose	14.067	6	.029

	capacity			
16	If a person shares with me views about their future care, with permission, I would feel confident to discuss this with the wider care team	12.889	7	.075
Overarching values and knowledge				
17	I have thought about what is important to me in the meaning of my life	4.450	5	.487
18	I recognise that my role is vital in delivering good end of life care			.093
19	I understand how society and culture influences attitudes to dying and death	2.061	4	.725
20	I feel confident to be able to support a bereaved person	8.619	7	.281

6.3.2.3 Students' self-perceived competence and confidence in palliative care with regards to the various subscales

The mean score of the various core competencies on the SPCCPC scale were also calculated. The SPCCPC scale is partitioned into 5 core competencies as shown on table 21. The core competency score was a mean score based on responses to the individual competencies that formed each core competency, individually scored using the 5-point Likert scale described in chapter 4. Students' mean scores for all the core competencies were slightly higher after training than before training, as shown on table 20.

Table 20: Mean pretest and posttest core competencies scores

Subscale	**Pretest (N=69)**		**Posttest (N=64)**	
	Mean	**SD^a**	**Mean**	**SD^a**
Communicationskills	3.985	.98284	4.213	.77701
AssessmentCP	4.082	.80416	4.453	.60480
SymptomMMCW	3.823	.87391	4.140	.66061
AdvanceCP	4.152	.11969	4.562	.78654
OverarchingVK	4.311	.09389	4.503	.69349

SD^a: Standard Deviation

There was a significant difference for McNemars Bowker test for communication skills (P-Value= 0.001) and advance care planning (P-Value= 0.001). The change in students' perception of their competence and confidence for the other core competencies were not significant (P-value>0.05).

Overall, the change in students' perception of their competence and confidence in palliative care provision was not significant (McNemars Bowker: test P>0.05). This is shown in details on table 21.

Table 21: Nonparametric test results for core competencies scores

Perception	Pretest (N=64)		Posttest (N=64)		P-Value
Communication Skills (6 Items; min score= 6, max score = 30)					
	Score range	**Frequency (%)**	**Score range**	**Frequency (%)**	0.001
Disagree	14.0-22.0	25.0	14.0-24.9	42.2	
Neutral	22.1-27.0	54.7	25.0-26.9	23.4	
Agree	27.1-30.0	20.3	27.0-30.0	34.4	
Assessment and Care Planning (3 Items; min score= 3, max score = 15)					
Disagree	9.0-12.0	51.6	9.0-13.0	48.4	0.188
Neutral	12.1-13.0	18.8	13.1-14.0	31.2	
Agree	13.1-15.0	29.7	14.1-15.0	20.3	
Symptom Management (5 Items; min score=5, max score=25)					
Disagree	13.0-18.0	43.4	5.0-20.0	50.0	0.159
Neutral	18.1-20.6	29.7	20.1-22.0	28.1	
Agree	20.7-25	35.9	22.1-25.0	21.9	
Advanced Care Planning (2 Items; min score= 2, max score =10)					
Disagree	4.0-8.0	45.3	4.0-8.9	25.0	0.001
Neutral	8.1-9.0	26.6	9.0-10	15.6	
Agree	9.1-10	28.1	10.0	59.4	
Overarching Values and Knowledge (4 Item; min score=4, max score= 20)					
Disagree	12.0-17.0	48.4	9.0-18.0	48.4	0.881
Neutral	17.1-18	23.4	18.1-19	26.6	
Agree	18.1-20	28.1	19.1-20	25.0	
Overall Score (Item; min score=20, max score= 100)					
Disagree	63.0-79.0	32.8	51.0-83.6	32.8	0.801
Neutral	79.1-84.6	31.2	83.7-90.0	37.5	
Agree	84.7-100	35.9	90.1-100.0	29.7	

6.3.2.4 Predictors of change in competence and confidence

A Pearson chi-squared test was conducted to examine whether there was any correlation between the demographic variables and the pretest and posttest scores for students' self-perceived competence and confidence in palliative care. No demographic variable was found to have any influence on these (P>0.05).

An analysis of variance (ANOVA) was conducted to assess whether there was a relationship between pretest palliative care knowledge score and self-perceived competence and confidence in palliative care provision pretest score, as well as between posttest palliative care knowledge score and self-perceived competence and confidence in palliative care provision posttest score. No relationship was found between these variables ($P>0.05$).

6.4 Qualitative evaluation of the impact of the palliative care course

This section presents students' results obtained from focus group discussions where students shared their perceptions of the impact of this course on their competences. Two main themes emerged and included: students' perception of their pre-course palliative care competencies and students' perception of the impact of the course on their palliative care competencies. The subthemes that make up the various themes are also discussed under each main theme.

The results are presented with excerpts from the interview transcripts to support my interpretation of what students reported. The students whose quotes are presented are coded in brackets at the end of the code. These codes are generated from the focus group number and the focus group participant number. There were three focus groups coded 1, 2, and 3. In focus groups 1 and 3 there were 8 students each, coded 1-8 each. In focus group 2 there were 7 students coded 1-7. Here are some examples of the meaning of codes allocated to the students:

1. FG1P3: Focus group number 1 participant number 3
2. FG2P5: Focus group number 2 participant number 5
3. FG3P8: Focus group number 3, participant number 8

NB: Throughout this chapter, I use the word 'students'. By 'students', I mean the focus group participants.

The themes and subthemes that emerged from the data are explored in details in the following sections.

6.4.1 Students' perceptions of their pre-course palliative care competencies

Students were asked what they knew about palliative care prior to participating in the palliative care course (appendix 8). These students had differing views regarding their pre-course palliative care competencies. Whilst most students reported having some knowledge about palliative care, and acknowledge certain misconceptions on this subject, there were a few who reported a complete lack of palliative care competencies. Their pre-course competencies will thus be explained under three subthemes: no knowledge about palliative care, a misunderstanding of palliative and inability to care for the dying.

6.4.1.1 No knowledge about palliative care

Some students, particularly those from the second year class, said they had never heard of palliative care or said they were ignorant about its meaning. They also reported a lack of awareness of the components, recipients and quality of life dimensions of palliative care.

> “Before participating in the course I did not have any idea concerning palliative care. I had never heard of it” (FG1P4)

> “Before, I did not know the meaning of palliative care…I did not know how they were supposed to take care of patients who are critically ill to the point that their disease is incurable…I did not have any idea that you needed to take care of these people, so that they can live better, and have a good quality of life” (FG3P4).

6.4.1.2 A misunderstanding of palliative care

Most of the students said they had some prior understanding of the meaning of palliative care, what it entailed and who it was meant for. This prior knowledge was largely gotten from lecture notes, referring of meaning from textbooks and peers, and from personal and professional experiences of caring for dying patients or relatives in the hospital during clinical placements or at home. One of the students said:

> …”I use to get, maybe when I am reading my notes, I will see the word palliative somewhere, then I will go to refer, or to ask from others” (FG1P1).

A majority of the students recounted having some prior misconceptions about the definition/meaning of palliative care and the setting as well as recipients of palliative care. They particularly reported a preconception that palliative care was only about caring for the dying. This can be demonstrated by the following interaction in which students’ agree with each other on this view.

> “Before participating, my mind was narrowed down to the fact that palliative care is care of the dying, it has to do with people who are dying…. I had a lot of confusion in my mind concerning this topic of palliative care because my friends and I will even argue, this one will say it has to do only with the dead and with the dying, this one will say no its not only with the dead and with the dying.” (FG3P1)
>
> “For me, before the course, I heard about the word, I referred the word, I saw that it was all about care of the dying” (FG3P3).

They reported certain physical aspects of the care of the dying which they felt was the focus of palliative care services. These included providing patients with drugs and offering first and last offices. This is demonstrated in the following excerpts below, where a student is agreeing with what her mates were saying about their prior misconceptions about palliative care.

> “Before now, I also thought palliative care… was only about giving drugs to patients, when they were in a critical condition, especially when it is a life threatening condition” (FG3P2)

They also said they initially felt the recipients of palliative care were elderly persons as demonstrated in the excerpt below in which a student supported the perception of another.

> “I thought it was just care given to the old” (FG2P1).
>
> “I also thought it was care of the dying, particularly the old” (FG2P2).

A few students reported a prior conviction that palliative care was diagnosis dependent, particularly for critically ill patients or those with chronic conditions.

> “I only knew that the topic concerned patients who were having chronic illnesses” (FG1P1)

6.4.1.3 Inability to care for the dying

Some of the students said prior to the palliative care course, they had a phobia for the care of the dying patient, and this made it hard for them to either provide nursing care to or to stay in the ward when a patient was dying. This is what some students said:

> "Before the course, I had never imagined myself staying beside a dying patient. Much less taking care of her or trying to help him/her or to relieve his/her symptoms" (FG1P8).
>
> "...the thought of caring for a dying person was scary to me" (FG2P6).

Some of these students reflected on their prior poor practices with dying patients and blamed it on a lack of knowledge about palliative care.

> "Before the palliative care course, I had once worked in the intensive care unit…So when I did this course, I reflected back and I really saw that there were many things which I could have done at that time for them" (FG2P7).

Others narrated incidences they had encountered after the course, during the clinical placement, which if they had encountered before the course, they would have escaped from the scene.

> "...before this course, during rounds, or treatment for this patient [a patient in the ward who had cancer], I would escape, I would not normally be part of that, because it was really a bad scene" (FG3P1).

Some of them mentioned prior poor attitudes towards the care of dying patients. This seems to have been a result of the misconception they held about palliative care. Here is what a student shared:

> " At first it was just like who wants to be a mortuary attendant or in nursing who wants to take care of dead people and with the phobia I had for dead people" (FG3P5).

6.4.2 Students' perceptions of the impact of the course on their palliative care competencies

Most students who took part in the focus groups reported improvements in their palliative care knowledge, attitudes and skills, and described this as a benefit of attending the course. Students' description of their learning was often connected to their pre-course expectations and knowledge about palliative care. Some students expressed their learning in terms of what they did not know prior to the course rather than a direct report of what they had learned by participating in the course, while others described it in terms of what was thaught during the course. However, most of them were able to give a specific example of how the course had impacted on their knowledge, attitudes and skills in palliative care. These specific areas of learning are explained under the following subthemes: improved palliative care knowledge, and improved competence and confidence in palliative care provision.

6.4.2.1 Improved palliative care knowledge

Every student who participated in the focus groups indicated or implied an increase in their palliative care knowledge and described it as a direct result of attending the palliative care course. They also shared the perception that this knowledge increase was substantial. It is worth noting that these responses might have been the result of social desirability responding, whereby the students might have been responding might have been with an intension to please me. They said they found this course really important in clarifying their misconceptions about palliative care. The following responses are typical of others:

> "It [the course] really improved my knowledge a lot" (FG2P4).
>
> "This palliative care course helped me a lot. It has actually broadened my knowledge on many things". (FG3P4).
>
> "The course was of cardinal importance, in that it ruled out most of the misconceptions I had about palliative nursing" (FG3P5).

Regarding the content of this knowledge increase, students reported having learned some nursing care measures that can be provided to patients in palliative care situations. They mostly perceived improvements in their knowledge of:

a. The goal and remits of palliative care

Students' discourse demonstrates a change of perspective, from thinking that palliative care is only provided to someone only when death is imminent to understanding that it starts from the time of diagnosis of a life threatening condition in any individual irrespective of age or diagnosis. This is demonstrated in the following discourse:

> "…But during the course I discovered that a child or any person at any age can still be involved in palliative care

> depending on the condition, a life threatening condition" (FG2P1)
>
> I also thought it [palliative care] was care of the dying, particularly the old. But now I have realized that it is care for people with incurable or life-threatening diseases (FG2P2).

Students also reported gaining an understanding that palliative care aims to improve the quality of life of patients and their families. They claimed recognition of the fact that palliative care can be provided in any setting when cure is not an option. The following excerpts are descriptive of students' perception of their achievements on these issues:

> "I later on realized that it [palliative care] was also about alleviating suffering and giving patients a better quality of life, and what I also discovered about palliative care is that it neither seeks to shorten nor lengthen the days of the patient. We only improve their quality of life"(FG2P5).
>
> I have learned that you don't only need a hospital to care for people who are dying, that you can even do it under a tree, you can do it in their homes, you can do it wherever you find them (FG3P4).

b. Communication and breaking bad news

Most students reported acquiring knowledge about and recognizing the importance and central role of communication in palliative care. They perceived an increase in their knowledge of how to break bad news. Learning about communication seems to have helped them to reflect and make meaning of their past clinical experiences. Their talk suggested that the course gave them a repertoire of evidence based communication skills that can be used when needed. The following excerpts demonstrate these aspects of students' learning:

> "One very, very important thing that the course has impacted on me is that as a clinician, I need to be honest with the patient, I need to be truthful when I am talking to them...To me of everything that we learned during the course, that was the highlight" (FG1P2)
>
> "I realized that communicating with a patient does not only occur when the patient's condition is really that severe or very, very critical, but begins from the very start when the person has been diagnosed of a life-threatening disease, and that I am not supposed to communicate with only the patient, but also the patient's family members" (FG3P2).

c. Pain Management and morphine

Most students said they gained more knowledge on how to manage patients' pain by participating in the course. Here is what some students said:

> "I learned how palliative care can be used to manage patients' pain. We were also taught the analgesic ladder used in pain management and there we saw how drugs from the first line to the last level could be used…I learned some of the things, some of the procedures that I can carry out to relieve patients of their pain" (FG1P4)
>
> "I know some of the pain medications that were taught to us and their different classes and the type of pain for which they are supposed to be administered" (FG3P3).

They also reported that the course introduced them to morphine and somehow dispelled the myth surrounding its use.

> "I had never heard of morphine, but when I came to class, I discovered that there is a certain drug called morphine that can be used for severe pain patients… And I was also

> taught on how to administer morphine and where morphine is available and how it is regulated" (FG1P4).
>
> "I also learned about morphine, at first I use to hear the word morphine, I never knew the use, but I knew that it was a drug which was illegal, but now I have got to know that morphine is a very strong analgesic" (FG3P3).

d. Bereavement Management

Bereavement management was also mentioned by students as a significant area of their learning. This is demonstrated in the following excerpt where one student confirmed the experience of another:

> "The course thought me a lot in dealing with bereavement. At first I knew that if someone is bereaved, the best thing I could do is to stay away from that person. I was just always afraid that if I go close to the person, I may just say the wrong thing and hurt the person...But I discovered during the course that that is not the best way, I need to have courage, and I learned what to say, how to say it" (FG3P5).
>
> "Like my brother [FG3P5] just said, I had the same idea that if somebody is bereaved, or is suffering, the best thing for me was just to keep away from the person, because I use to feel that if I am going to that person, I might not even know what to say, but this course has given me some knowledge of what I can tell the patient" (FGD3P3).

e. Some palliative care principles

They reported gaining understanding of when palliative care needs to be implemented and the rationale for early implementation of palliative care.

> “I found out it [palliative care] didn’t just start when a man is just about to die. So if I would take palliative care to start only when someone is just about to die, it means I will just always be late” (FG3P5).

They also reported particularly gaining an understanding of the holistic approach in palliative care. Most of them talked about this aspect of their learning and its importance in the care of people with life-threatening conditions.

> “But now, I have realized that when it comes to palliative care, the care has to be holistic, that means it has to consist of the physical aspect, psychological, social, as well as other aspects relating to making the person die comfortably as well as helping the person to live a quality life before dying”(FG3P2).

The philosophy of “never nothing we can do” in palliative care was reported as a significant component of their learning and the concept was appreciated by the students. They reported recognizing the importance of giving daily attention to palliative care patients, and not giving up on caring for them.

> “it really benefited me to see that at every level, wherever a patient, there is something I can always do” (FG3P8).

According to the students, this course clarified their prior notion that it was often better to avoid talking about dying to patients with life-threatening conditions, and improved on their understanding of the importance of initiating talk about dying with patients and their families.

> “I thought that it was kind of a bad thing to discuss with a patient about dying no matter if the patient wants to discuss about it. So I thought it was kind of a horrifying experience, but from the course, I learned that death is a natural end for everybody and so it is worth talking about”. (FG2P6)

The importance of viewing patients as individuals in palliative care was another area of learning reported by students. The course enhanced their understanding of considering patients as individuals with their own needs, requiring personalized care.

> "The course has also made me to understand that every patient needs individualized care" (FG1P2).

> "it really improved my knowledge a lot and made me to understand that patients should be treated as individuals, and every patient is not just a patient, but a patient with different needs" (FG2P4).

They also reported an understanding that palliative care aims to improve patients' quality of life. This equally seemed a very important part of their learning, as almost every student reported on this aspect.

> "I learned that we will rather add more quality to the patient's remaining life, make the patient's last days' worth living and worthwhile". (FG2P4)

Students said they learned the value and importance of ensuring a peaceful death in palliative care.

> "I think that it helped me to know that the essence is not that every patients must live or not die, but the essence is that you did all to make sure that you give them the best care, so that whether living or dying, they should be dying peacefully"(FG1P2).

6.4.2.2 Improved competence and confidence in palliative care

A good number of the students in the focus groups claimed an increase in their competence in various aspects of palliative care. The increase in knowledge that students reported having gained from the course were seen as significant to improving the competence and confidence they had towards the care of patients with life-threatening conditions or patients who are dying. The increase in competence and confidence in palliative care reported by the students seem also to have been particularly influenced by the statement: "Never nothing we can do" which was most often mentioned by the facilitators and was also a major concept in the manual distributed to the students: This is what some of them said:

> "...If I come across a patient that needs palliative care and with the knowledge I have, personally I can do some palliative care for the patient or even know where to take the patient to" (FG3P6).

> "...like one of this quoted phrase was that we should never say there is nothing we can do. So it really benefited me to see that at every level, wherever a patient, there is something I can always do and I can say it has been a booster for me" (FG3P8)

Nevertheless, a few students differed from this general picture and mentioned that although they had gained an understanding of what palliative care entailed, by participating in the course, they still lacked confidence to care for dying patients, requiring more education and support from teachers and mentors.

> "I really think that we should have some lectures again so that we could improve on some of our palliative care skills" (FG1P4).

> "...Even with the theory from the lesson that I got, still yet to approach them [patients approaching the end of life], I am still skeptical" (FG3P2).

The greater majority of students who reported improved competence and confidence made particular reference to improvements in their communication skills, ability to care for a dying person and in the understanding of their role as change agents in nursing. These are explored in details below.

a. Communicating with the dying

Almost every student claimed that their ability to communicate with patients and their families who are experiencing end of life improved. It seems the course gave them a repertoire of evidence based communication skills that can be used when needed. They also reported improvements in their competence and confidence in breaking bad news.

> "... during the course I learned how to break such news to a patient. I learned the process and the procedure and it was interesting…The course has given me a very powerful power concerning breaking news to patients. It's a very strong tool" (FG1P2)
>
> "I have learned to be a good listener….I am a good listener now…I know how to really focus on my patient while the patient is talking and not be distracted. I now know how to pose questions to patients, to ask them open questions and give them the opportunity to express their mind" (FG1P7).

b. Care of the dying person

Students reported a change in their attitudes towards the dying and care of the dying. One student said:

> "It [the course] gave me some kind of courage to look at these people in a different way" (FG3P1).

They reported developing some insight and self-confidence in the care of a dying person. Most students reported gaining confidence to stay with and provide care to a dying person as a benefit of attending the palliative care course.

> “The course has really helped me...now I think I have the courage to take care of the dying” (FG1P8).

> “the thought of caring for a dying person was scary to me but after the course, I saw that it was nothing really terrifying but something that any person can do and every nurse who has a caring attitude can focus and do it” (FG2P6).

c. Change agents in nursing

A few students claimed the course help them in gaining self-confidence to provide nursing care in general and felt that this increased their confidence to be change agents in nursing.

> “One of the teachers made a statement that if you think you are too small to make a change, try going to bed with a mosquito. So from there I learned that I can make a change and from there I made up my mind that no matter where I find myself, I can make a change, I can always try to talk or do something for a patient” (FG3P3)

6.5 Conclusion

In this chapter, I have presented the results from the quantitative survey of the impact of the palliative care course on students’ palliative care knowledge and self-perceived competence and confidence in palliative care provision. I have also presented findings from the focus group interviews where students recounted how the course had impacted on their knowledge, competence and confidence in palliative care provision.

The findings from both the quantitative and qualitative methods, presented in this chapter, suggest these students had very poor pre-course palliative care knowledge. However, after participating in the course, they generally experienced significant improvements in their palliative care knowledge and improvements in their self-perceived competence and confidence in palliative care. Nevertheless, there were still some areas of palliative care where the students demonstrated inadequate knowledge, after the course. Although these areas did not come out clearly in the qualitative findings, the quantitative findings show this was particularly in their knowledge of symptom management, and psychosocial and spiritual care. These findings are discussed in details in chapter 9.

In the chapter that follows, I present students' reports of the transfer of their palliative care learning, to practice during placement, in the care of patients and their families who were approaching the end of life. I also present students' reports of the facilitators of the care they provided to these patients and the barriers to care provision as experienced by them.

CHAPTER 7: TRANSFER OF PALLIATIVE CARE LEARNING TO PRACTICE, ITS FACILITATORS AND BARRIERS

7.1 Introduction

This chapter reports findings from focus groups and individual critical incident interviews regarding student nurses' transfer of their palliative care learning to practice during placement as well as their perception of the facilitators and barriers to this transfer. The critical incident technique yielded a total of 26 critical incidents, with an average of 2 incidents per student. Students' transfer of their palliative care learning to practice with patients and their families who were approaching the end of life is explained through 4 main themes; Students' report of how they implemented their learning in practice, facilitators of palliative care learning transfer to practice, barriers to the transfer of palliative care learning to practice, and concerns and feelings during learning implementation.

The findings presented in this chapter has been published with BMC Palliative Care (Bassah et al., 2016)

7.2 Students' report of how they implemented their learning in practice

This theme describes and explains what students were engaged in doing during clinical placement in trying to transfer their learning from the palliative care course to practice placement.

The findings suggest they were particularly engaged in making decisions about whether patients needed palliative care or not and providing or not providing palliative care to these patients. A number of subthemes which explains students' interactions emerged and are explained further below.

7.2.1 Encountering patients and diagnosing the need for palliative care

This subtheme describes the types of end of life patients encountered by the students during placements and explains the events that led students to the patients and families, who benefited from the palliative and end of life care interventions provided by them. It also describes how students recognized that these patients needed palliative care.

The students reported encountering a wide range of patients and their families with incurable and advanced diseases like HIV/AIDS, cancer and other non-communicable chronic diseases. Most of the patients and carers encountered were adults or older. There were barely a few pediatric and young adult patients. The HIV/AIDS patients encountered by these students were often at the terminal phase of the disease. One student explained:

> "…there was this patient that I met at the .... [name of hospital and ward withheld] She was in her forties and she was an HIV/AIDS patient. She had been on ARV, but had stopped taking her ARV. She was in the advanced stage of AIDS" [Individual Interview, Participant 1].

Other patients encountered either suffered from chronic conditions like cancer, or kidney disease (ESRD), diabetes, or cardiovascular and respiratory diseases.

> "I meet an elderly patient, with acute respiratory disease, and he was on oxygen and he was semi-conscious" [Individual Interview, participant 7].
>
> "there was a man with cancer in the ward where I was, the cancer was really advanced" [FG3P1].

Four main things were seen to initiate the encounter between student nurses and patients who required palliative care. Firstly, the students reported that, while on a general ward situation and carrying out certain ward routines, they felt compassion and empathy towards patients, particularly when they perceived the patients had no family caregiver present, or were not adequately cared for by family caregivers or the wider care team.

> "…when I saw her [an HIV/AIDS patient] lying helpless on the bed and without a family caregiver, although I was just passing around, I decided to talk with her… her look made me become empathic." [Individual interview, Participant 1]

Secondly some students said they were delegated responsibility for patient care by qualified nurses. In responding to this obligation they identified some palliative care needs and thus offered certain palliative care interventions, described in the following sections. However, they expressed some discomfort when delegated the care of someone who was dying.

> "She had HIV/AIDS ….[her] mother who was the carer [but] was kind of scared of her because of the changes that had occurred on her body. And there was no money

> to even buy the prescribed drugs and even the nurses in the hospital were like not paying attention to her. So she was lonely and kind of abandoned. When we were allocating patients to students one morning in the hospital, everybody [nursing student on internship] was like running away from her and unfortunately she fell on me" [Individual Interview, Participant 4]."

Thirdly, some students said, patients or family caregivers conveyed information about patients' behavior, which attracted their attention and made them to diagnose the need and to provide palliative care.

> "The relatives were complaining to me that lately they have been talking to him and he does not respond and he spends the whole time sighing" [Individual interview, participant 10].

Fourthly, some students reported selecting certain patients because they saw it as an opportunity to apply their learning in practice.

> "… She was HIV+ and was at the advanced stage. She was hospitalized there for more than three weeks... She also had other conditions... the bed sheets were wet and dirty. So when I saw it I thought it was time to apply the knowledge I acquired during the palliative care course. So the first thing I did was that I asked the nurse if she has had a bath, and the nurse told me no, that her daughter was supposed to do it, but she did not do it. So I planned to give her the bed bath, and I did so" [Individual interview, Participant 6].

During the above encounters, students often felt the need for palliative care when patients had the diagnosis of a life-threatening condition, when their level of dependency was significant or when they were seen as dying, by the students.

> "She was HIV+, she was wasted, [her] condition was really getting worse every day. So I saw that palliative care will be really good for her" [FGD2P1].

7.2.2 Communicating with patients, their families and the wider care team

The students talked at length about how they communicated healthcare information with the patients, their families and the wider care team. They said they often seized any opportunity that arose to build rapport with patients. They also reported giving information to the wider care team that was relevant to patient care.

> "...I learned that in palliative care we never say there is nothing we can do! When I sat and reflected on that, I asked myself what I can do for this patient. The only thing that was at my disposal was communication. I thought of active listening and how to communicate through talking. So that was what helped me. I went back to her, I paid attention to her, I was patient when she was talking, looking at her and trying to understand her" [Individual Interview, participant 4].
>
> "Whenever there was a problem, I will always report to the nurses and even the doctor and share with them…and I was updating them on a daily basis...and representing the patient's interest to them" [Individual Interview, participant 9].

A few students recounted responding to questions about life and death and breaking bad news to patients and their families. They expressed successes as well as difficulties in dealing with these difficult conversations.

> "They constantly called me and ask whether there was hope for their father. To be candid, I told them the

> truth…I could say the truth firmly but with much softness" [Individual interview, Participant 5].

They reported giving information to the healthcare team that was relevant to the care of palliative and end of life patients and their families, particularly when they identified a nursing need that they felt was not within their capabilities to handle. Some students explained:

> "We spoke with the patient and the patient told us that the family abandoned him because he was not in accord with them before he fell sick… so we went and spoke with the ward charge (charge nurse) and through the ward charge, we could get the social services of the hospital" [Individual Interview, participant 3].

These students reported use of several strategies to initiate discussions with palliative and end of life patients and their families, and to show patients that they care. Examples included the use of pictures, active listening, and the therapeutic touch. These were particularly helpful when students wanted to enable patients tell their story, and potentially explore meaningful information and strategies to help with patient care.

> "when I went to her bedside, what made me to initiate discussion was a picture that was lying by her bedside cupboard. In that picture she was there with one of her family member. In that picture she was really strong and still looking healthy. So we started discussing from there" [Individual Interview, participant 1].

> "She was holding my hand while talking to me and she was crying" [Individual Interview, participant 6].

In some instances, students said they avoided certain uncomfortable/difficult conversations with patients and their families. Most particularly, they avoided talking about dying or breaking bad news to patients and /or their families.

> "but er, I spoke to her without mentioning death, death, death, or making her to know that she had an incurable disease or was in an advanced stage of the HIV/AIDS" [Individual Interview, participant 1].

> "we concerted with the nurses and the doctors, and how to break the news was a problem, I, I ran away, I left with the other colleagues (students)" [Individual Interview, participant 5].

7.2.3 **Assisting with physical care needs**

Students reported being engaged in delivering a wide range of active hands-on care, within the physical dimension of palliative care. Primarily, they described how they assisted patients who had life threatening conditions with their activities of daily living and comfort measures.

> "I assisted her in performing her activities of daily living, with the hygiene I was there, to make up her bed, to help her with the sizth bath, and at times, I administered some medications" [Individual interview, Participant 2].

They also, although rarely, reported engagement in managing patients' pain and other symptoms. Non-pharmacologic pain management measures were the major approaches employed by these students. This was possible due to the lack of prescribed pharmacologic pain management measures by the physician, requiring implementation by nurses. When pharmacologic measures were mentioned, these entailed the administration of prescribed analgesics, which were often mild analgesics or weak opioids. One student described an instance where she recognized the need for morphine in the management of a patient's pain and communicated it to the physician, but said it was not considered.

> "There was this patient, he was seriously in pain, and I asked the doctor, if there was nothing they could do about it, He said that no, he had been on so many analgesics that prescribing another one right now is not really a good idea. They wanted to prescribe Trabar [A narcotic analgesic, indicated for moderate to moderately severe pain], but I said she was really in pain... because we talked about that [during the palliative care course], the morphine, that when the pain was chronic, we had to start that one, but I don't know" [Individual interview, Participant 5].

Similarly, there were only a few instances where students were engaged in managing patients' physical symptoms. The two main physical symptoms these students reported to have assisted with its management were wounds and respiratory distress. Some students explain:

> "the woman had vagina ulcers, and in that aspect, what I could do as a student nurse is that I helped her in doing a sitz bath... We were doing it twice every day, once in the morning and in the evening. So during the morning shifts when I was there, I helped her with the sitz bath" [Individual Interview, participant 2].

Students also reported being engaged with daily ward routines like drug administration, vital signs assessment, documenting care, amongst others. This was often either provided in addition to, or in situations where they found it challenging to offer needed palliative care interventions. A student explained:

> "I think these are the significant things that I did, but in addition to that there was the normal daily routines that

> are carried out in the hospital like administration of medications" [Individual Interview, participant 6].

7.2.4 **Providing psychosocial and spiritual support**

Students recounted providing psychological support and said they found this more straightforward to provide than other forms of palliative care support. They reported creating time, despite busy ward schedules, to be with patients with palliative care needs and their families in order to explore and listen to their concerns, and feelings. These students also reported teaching patients about their condition and treatment regimen, in order to help them to accept, adapt and live with it. They similarly reported that they educated family caregivers to enhance their ability to support patients and also to cope with their own distress.

> "…when the young boy saw the father as we were cleaning (his wound) he started crying... after doing the cleaning, I had time to talk with him, to encourage him… like taking time to explain his father's condition to him… considering his father's health records, his condition was not changing, despite the medications that were being given. So with this, with the knowledge I had during the seminar [palliative care course], I knew that with this type of conditions, they can go home if they have a carer at home. So I asked the son if they have a close person at home, that is a nurse or someone who can offer nursing care...And then I also told him to collaborate with the nurses and that if he had any concerns, he can talk with the nurses and express his concerns" [Individual Interview, participant 10].

Moreover, the students said they often provided social support to patients who had no family caregivers with them in the hospital. One student narrated an incident where together with some of his classmates they advocated for the hospital's social service department for support for a patient.

> "…the patient was terminally ill with HIV…The patient had been in the hospital for three months and after two months, the relatives left that patient…we were concerned…We spoke with the patient... I consulted the charge nurse. The charge nurse said that is the problem they had been facing with this patient. But up to that time, they had not contacted the social service. So that is the proposal we gave. The charge nurse then went to the social service and the social service had to come in to call the patient's family… the person came the following morning… So after that, we helped the patient to arrange his bed, we cleaned him and we handed the matter with the social service" [Individual interview, Participant 3].

Students also narrated incidences where they provided spiritual care, and this was often linked to formal religion. They reported praying, sharing bible stories and using religion oriented ways of reassuring and giving hope to patients and their families.

> "…he said he thinks he wants to be in a Christian hospital, he wants to be where they will pray for him…So it was a bit difficult because the surgeon was absent so I went further and asked him if he needed any man of God to pray for him. He accepted and fortunately through one of our classmates, I asked her to call their pastor, and their pastor came and prayed for him. Immediately after, he could speak, and he got up on his bed and sat. And then after the pastor left, he went back to his bed and in less than one hour he died... I must say I actually saw an aspect of spirituality manifested" [Individual interview, Participant 3].

7.2.5 **Reflecting**

Implementing palliative care in practice seems to have made students reflective. They were often either simultaneously engaged in reflections as they provided patients with palliative care or did so after administering care. There were instances where patients' or family caregivers' conditions made students to look inward in a search for meaning. In other instances, they reported acknowledging their reactions in the face of certain challenging interventions. These reflections seem important in helping students make sense of their practice with patients approaching the end of life, as well as making them think about the kind of care they might themselves receive at the end of life.

> "the main things that actually stroke me was the fact that I as an individual could actually help somebody to some extent die peacefully. Like the aspect of providing her with her basic needs, grooming her, it actually stroke me because if I were the one, lying on that bed, I don't know whether somebody will do that to me…I think it's really significant to me" [Individual Interview, participant 2].

They were also found acknowledging their reactions in the face of certain interventions that were found challenging.

> "…She (daughter of a dying patient) did not want to believe it and she was like, my mother will see me make it in life. And I could not really bear it. Coming from within, at one point in time, I felt like really crying, but I just had to be strong" [Individual Interview, participant 2].

> "…I was really scared from the beginning because her face was really, I was not comfortable looking at her" [Individual Interview, participant 6].

7.2.6 Commitment to patient care and team working

Students' talk suggested some degree of commitment to the care they were offering to palliative patients and their families. They took off time to provide and follow up the care they provided to patients and their families. They reported developing a therapeutic relationship with patients and their families and giving room for them to call anytime they needed their assistance.

> "I took it upon myself that, no matter what, I will see what I can do to help this patient. Whether or not she was going to survive, I made up my mind to do something" [Individual Interview, participant 2].

The findings demonstrated that students worked in teams, particularly with other student nurses. In some cases, when nurses were supportive, they worked under their supervision, getting directions and reporting patients' condition and response to treatment.

> "I used to monitor the patient's vital signs very closely, when there is any alteration, I will alert the nurses and they will tell me what to do to intervene" [Individual Interview, participant 9].

7.2.7 Avoiding difficult interactions

The students also talked about some 'uncomfortable/difficult' incidences that they avoided. Most particularly, they avoided talking about dying to patients and /or their families. It shows some students still experienced anxiety and lacked confidence in talking about dying, despite participation in the palliative care course.

> "…but er, I spoke to her without mentioning death, death, death, or making her to know that she had an incurable disease or was in an advanced stage of the HIV/AIDS" [Individual interview, Participant 1].

7.2.8 Home Based palliative care

A few students also narrated incidences when they implemented their learning with sick family members at home. They particularly explained how the knowledge they acquired from the course helped to understand the illnesses of their family members and also to provide them with basic palliative care interventions.

> "From what was shown to us in the video on how the person that had a leg problem was able to move after some care and exercise. I discovered that when I went home, I was massaging my father's leg gradually. He started saying that he was feeling his legs, and though he could not walk with them, but on the bed he could move them." [FG1P7].

7.3 Facilitators of palliative care learning transfer to practice

The palliative care provided by student nurses while on clinical placement was made possible by a good number of factors. They included:

7.3.1 The palliative care course

Students reported that the competencies acquired during the palliative care course were significant to their palliative care practice. Some students explained how the course helped them to provide palliative care by reflecting on the deficiencies of their pre-course practices with patients with life-threatening/chronic conditions.

> "…I remember encountering so many incidences before we started the course but after the course, I realized that my approach was different, because I gained some knowledge" [Individual interviews, participant 3]
>
> "Before the palliative care course, I had once worked in the intensive care unit…So when I did this course, I reflected back and I really saw that there were many things which I could have done at that time for them, but which I did not have that knowledge to do" [FGD2P7].

Some students cited incidences where particular interventions offered to patients were as a result of what they had learned from the course.

> "...What was peculiar from the palliative care course that I learned is that; in palliative care we never say there is nothing we can do! When I sat and reflected on that, I asked myself what I can do for this patient. The only thing that was at my disposal was communication..."[Individual interview, Participant 4].

7.3.2 Supportive nurses and family caregivers

A few students reported that the palliative nursing care provided by them was made possible by support of some qualified nurses. These were often related to activities of daily living and comfort measures.

> “The nurses were encouraging me to go on with the procedure. They assisted me and they were telling me how to give the bed bath” [Individual interview, Participant 6].

Students also reported that when end of life patients and their families were supportive it was easier to provide palliative care.

> “One of things that facilitated the care was the carers [family caregivers]. They were collaborative” [Individual interview, Participant 9].

7.4 Barriers to the transfer of palliative care learning to practice

A number of barriers were faced by these students as they transferred their palliative care learning to practice placement. These included:

7.4.1 Being a student

Being a student emerged quite strongly as hindering the transfer of their learning from the palliative care course to practice. There were some incidences where students encountered patients with palliative care needs, but said they could not provide any palliative nursing interventions because of their limited remit of practice.

> "...so my big challenge was the issue that I am a student, and it limited me a lot" [FGD3P5].

One student narrated an instance where she thought it was irrational for her to start palliative care measures, when the qualified nurses, whom she considered experts, had not.

> "I saw the big nurse that was there, they did not even take the psychological aspect of the cancer… I did not see any palliative measure that they took. So it would have been a kind of absurd for me a student nurse, for me to go and meet the patient to start carrying out palliative care measures" [FG3P1].

They also reported some incidences where they were not able to identify a palliative care need or decide what palliative care interventions were needed due to the lack of competence and confidence, as well as lack of experience.

> "I came across somebody with a life-threatening condition, but I did not know how to really go about it" [FG1P8].

> "… since it's this liquid morphine, I was not very versed with doing it. So most of the time, it was the other experienced nurses that administered" [Individual interview, Participant 9].

In addition, some students who did not encounter patients who were at the end of life, said that they would not have been able to implement their palliative care learning had they encountered such patients because of lack of competence and confidence.

> "I did not come across, any patient with a terminal illness, and even if I did, I am not sure I would have had the

> courage to start the palliative care process with the patient because I lack experience” [FG1P8].

7.4.2 Qualified nurses

Students reported that qualified nurses sometimes did not allow them the time they needed to provide palliative care. They reported being delegated other functions when they wanted to provide palliative care to patients whom they felt needed it. According to the students, these qualified nurses saw this as a waste of time, given that the patients were going to die after all.

> “…they [nurses] told us that there are more important things to do and that there are patients that are there that can easily recover, we should take care of them, that that man has been there for 2 months and nothing is changing” [FG3P5].

Students also reported that qualified nurses’ lack of knowledge about palliative care and negative attitudes towards care of the dying prevented the implementation of their palliative care learning, because they were not sure how to interact with these nurses to enable implementation of their learning in practice.

> “in addition to what [name of student withheld] is saying, what I also discovered is that the nurses in our setting know little or nothing about palliative care, so what I know and what they know actually differs. What I know about palliative care, they know little or nothing about that. So it’s as if I should also transfer the knowledge to them or teach them also, so that we can care for these patients” [FG2P5].

Some students however, in certain cases, still struggled to implement their palliative care interventions with dying patients, despite qualified nurses’ interference. One student describes an encounter where after being prevented from providing palliative care to a dying patient, he still managed to use his private time to provide the patient with this care.

> "when we showed interest in cleaning the patient, they told us that there are more important things to do and that there are patients that are there that can easily recover, we should take care of them, that that man has been there for 2 months and nothing is changing…we had to bath him, in the course of the day. The time the nurses gave us that if we wanted to eat, we can go and eat something, that is the time that we managed to use to take care of the old man's hygiene needs" [Individual Interview, participant 10].

7.4.3 **The practice setting**

The students recounted how impractical it was to implement palliative care in a general ward situation given that there were often many patients in a ward in addition to those with life-threatening and chronic conditions. Thus the patients had diverse needs, and required diverse care. Moreover, the lack of a specialist palliative care team was another reported barrier.

> "there are really barriers for example there is no particular setting where they place people with palliative care needs. So you have to come first of all and identify that this one is an incurable case, so the fact that there are no particular places for them, so there are no particular nurses or personnel allocated to them. So we find that we are dispersed to give care to everybody at the same time, so you can't really concentrate on those dying patients because you have other patients in the ward you need to care for. So the fact that they do not have a particular place for them is really a challenge because you sometimes have the will to help them, but you don't have the time to do it" [Individual interview, Participant 5]

> " I could not do the other aspects of palliative care since there was no team, so I just tried to do what I could alone" [Individual Interview, participant 6].

In addition, they said that the existing hospital routines and the lack of a palliative care policy made it difficult to infuse palliative care into the existing practice.

> "…the hospital setting, especially where we go for practice, is already made in such a way that nurses have some fix things that they do, each morning, each afternoon, each evening or every time, they have a specific thing that they do... but it is not routine for you to see a nurse giving palliative care, even when the case is really advanced" [FG1P1].

Moreover, a few students said the lack of hospital equipment needed to provide care and sometimes the unconducive physical environment where some patients who required palliative care were found hindered practice.

> "… you know this hospital has a hemodialysis centre,…I can quite remember one little girl of 16 years old who came late for hemodialysis and the machines were all occupied, so she had to wait. In waiting and waiting,…she developed further complications that resulted to her death. Like providing palliative care to this patient at the hemodialysis centre, you have to do something or talk about helping them when it comes to finance, because most of them always complained of that." [Individual Interview, Participant 1].

7.4.4 **The Patient**

Some students reported that it was difficult to provide palliative care when patients were difficult, expressing negative attitudes or when they were unconscious. Some student reasoned that patients were not ready or willing to engaging in discussions about dying and said that was a barrier.

> “we went there to clean his wound and he was always looking sad, so I tried to ask him how he was feeling, he could actually talk just that he could not move, but he made a harsh sound that actually scared me, like he did not want to talk, he was not just willing to cooperate, so I found it very difficult to break the wall that he had built around him, so I ended up not doing anything”[FGD3P4].

In addition patients’ lack of resources for needed care was seen as a barrier by these students.

> “her drugs, palliative care also deals with drugs that she could not provide” [Individual Interview, participant 7].

Some students explained the condition of the patient as a barrier. In most cases they found it challenging providing palliative and end of life care to dying unconscious patients.

> “just the condition itself, a young child, who has not gone anywhere in life, it just made me depressed somehow. I was not able to do anything, nothing at all…the fact that he was unconscious” [Individual Interview, participant 7].

Some student reasoned that patients were not ready or willing to engaging in discussions about dying.

> “... the patient does not want to hear about death, they want assurance, they want to know that it is well and they are going to be fine” [Individual Interview, participant 1].
>
> From what I realized, people don’t like talking about dying, people really have a bad notion about it, so at the mention of palliative care, most people shy away... They often feel that they have to get better and live their normal life so they will not like the concept of palliative care” (FG2P2).

7.4.5 **Patients’ family caregivers**

They reported that it was not easy to provide palliative care when the family was death denying or giving up on patients. When patients’ family was death denying they prevented any talk about palliative care and when they were sure death was eminent, they refused palliative care, on the basis of it being of no use since the patient was to die after all. In certain situations patient family caregiver’s lack of palliative care knowledge was a barrier. These students reported that palliative care was perceived by patients’ family as just for the dying.

> “…when I tried to discuss this with her sister I saw that from her own idea of palliative care, she thought that palliative care was mainly for people that are dying, if somebody is going there it means the person is going to die. So for them they had a very big hope, they did not see their sister dying; they knew that she will recover and live normally. So for me, with this I had a problem implementing my knowledge”[FG1P1].

> “One of the main barriers was knowledge deficit. The patient’s carers were not informed about the patient’s condition. Most of the time the patient was on oxygen and the patient was not able to express himself, so I will deal with the carers. So they were not really informed about the condition” [Individual Interview, participant 9].

Another issue raised was that the family, rather than the patient were in charge, and at times interfered with or disrupted intended care.

> “in line with what my colleague just said. It is very difficult to talk to patients when the family members don’t want you to. That is one challenge I had in the (...Name of hospital) hospital. I tried talking to a woman when I entered, her daughter was there. And I just wanted to start

> taking the health history of this woman, asking her how it started, and the daughter did not even want me to talk to her mother. She was like, I don’t want her to even remember what has been happening”[FG3P4].

7.5 Feelings and concerns of the student nurses while implementing their palliative care learning

7.5.1 Feelings of students

Students experienced and expressed several feelings and emotions as they provided palliative care to dying patients and their families. In dealing with the suffering of dying patients, they were found experiencing both positive and negative feelings and emotions including feeling competent and confident, empathic, satisfied, depressed, fear and anguish, discomfort, and inexperience.

In cases where students had the knowledge and skills, or had prior experiences, or were supported by qualified nurses, they often expressed positive feelings and emotions and felt competent and were confident in providing care to patients and their families who were approaching the end of life.

> “I was empathic, or trying to put my foot in her shoes” [Individual Interview, participant 1].

However, when they lacked competence or support or when it was their first experience, the often did not provide any palliative care and either escaped from the scene or said it was not within their scope. However in cases where they could still manage to care for patients who were dying, they often masked their negative feelings, particularly feelings of fear, anguish and depression, with a brave look. Some students explain:

> "…on that day, it was my first time of seeing when someone is dying. So it was a terrible news… it was difficult" [Individual Interview, participant 5].

> "…it was really challenging…And another challenge was that knowing fully well that the woman was going to die but her daughter did not want to believe it, so it was difficult letting her know that at any point in time, her mum was going to die… And I could not really bear it. Coming from within, at one point in time, I felt like really crying, but I just had to be strong" [Individual Interview, participant 2].

There were also circumstances where patients' conditions and resultant suffering made students to experience fear, anguish and depression. Sometimes they were uncomfortable working with these patients. Some students' explain:

> "…there were times that I use to listen to the patient's heart rate, it fluctuates and sometimes, there were even cessation, I used to be sometimes very worried and scared" [Individual Interview, participant 9].

> "… Honestly after doing that I just went and changed and went back home because I could not withstand the odor and everything" [FG1P3].

7.5.2 **Concerns of students**

Students' exhibited concerns that qualified nurses did not have the palliative care knowledge needed to provide care to patients and their families who were experiencing the end of life. They were equally concerned that patients and their families were deprived of the care they needed, as a result of this knowledge deficit. Moreover, they felt this lack of knowledge made it challenging for them to implement their own palliative care knowledge in practice. Given these they often proposed that palliative care education be made compulsory for both practising and student nurses.

> “there were many barriers. First the nurses in the hospital, they are lacking in basic knowledge about palliative care. Many of the patients needed that, but they could not have because the nurses there are not knowledgeable. So I tried the one I could, but if the nurses were knowledgeable, when I left, they should have continued. But I know that as I left, the patient went back to how she was because there was no one to continue” [Individual Interview, participant 7].

Students shared concerns about the lack of palliative care for dying patients and their families in the setting where they undertook their internship. They also thought that the care offered to dying patients was poor. Firstly they were concerned that these patients were often abandoned by the nurses, and sometimes by their families. Students’ were also concerned about nurses’ negative attitudes and behaviours towards dying patients. They complained about the way nurses reacted, talked about or interacted with dying patients in a negative way. Nurses were seen to lack respect for dying patients, in talking about them in non-dignifying and depreciating ways. They were also seen as neglecting the basic care needs of these patients and often only delegating it to student nurses’, with little or no supervision. Students reported that nurses often gave up on the dying patients, rarely attended to their care needs and often only waited for when they will die.

> “I have noticed that nurses often send student nurses to take care of them. The nurses get discouraged. Also, I have noticed that the nurses forget about the patient and taking care of the family…So that is the major thing I really noticed. That the nurses easily get discouraged and then they neglect the patient” [Individual Interview, participant 10].

7.6 Perceived benefits of palliative care interventions provided

Students felt the palliative care interventions provided by them were often beneficial. They reported patients experienced relieve after they implemented their palliative care interventions, and in some instances, expressed their gratitude to the students.

> “it relieved her. At least, she opened up, she voiced out what was inside and she never kept anything from me. And I am convinced she died a peaceful death knowing that one person cared for her [Individual Interview, participant 4].

> “she was saying thank you to me. And since we were speaking in pidgin, our local language around here, I could dictate from there when someone is really happy” [Individual Interview, participant 1].

7.7 Conclusion

This chapter has presented findings from the focus group and individual critical incident interviews regarding students’ transfer of their palliative care learning to practice. It has reported what students’ said they could do or not do for patients and their families who were approaching the end of life, while they were at placement. It has also identified some facilitators and barriers to their students’ palliative care learning transfer to practice and the feelings and concerns experienced by students as they worked with these patients, their families and the wider care team.

The results suggest that student nurses in receipt of palliative care education can transfer their learning to practice. Students reported recognizing patients with palliative care needs, providing patients with physical, psychosocial and spiritual support and communicating patient information to the wider care team. They did however perceive some barriers to this transfer which were either related to themselves, qualified nurses, the practice setting or family caregivers and patients.

In the next chapter I present the results from the focus groups on students' report of their experiences and evaluation of the course, its strengths and weaknesses and how it can be modified.

CHAPTER 8: STUDENTS’ EXPERIENCES AND EVALUATION OF THE PALLIATIVE CARE COURSE

8.1 Introduction

This chapter explores students’ experiences and evaluation of their experiences of the course. The chapter starts with what students expected of the course, prior to participating and moves to students’ report of their experiences of the course, and their descriptions of the course. It closes with students’ perception of the strengths and weaknesses of the course and how the course could be enhanced.

8.2 Students’ expectations prior to participating in the course

The students’ motivation to participate in this course seems to have been driven by some learning needs which they had from their prior personal and professional experiences. These self-identified learning needs, though was diverse were quite developed and distinct. The students saw the palliative care course as an opportunity to address these needs, and their expectations of the palliative care course were shaped by their prior learning needs. Nevertheless, students in focus group 2 shared some differing expectations from those of students in focus groups 1 and 3. One student said she had no expectations as she signed in for the course “I thought, I really had no idea of what to expect” (FG2P2). Another reported she was expecting “a very terrifying course" (FG2P6), and yet another was expecting "to be able to revive the dying, and maybe reverse the dying process or reverse the condition of the patient" (FG2P4).

Students' expectations of the course are described through two subthemes: outcome, and content and educational strategy expectations.

8.2.1 Outcome expectations

The students' expectations of the course were mostly outcome oriented. They anticipated achieving varying outcomes by participating in the course. Generally, they were expecting to experience some positive changes in their palliative care competencies as a result of their participation in the course. Students who had no prior knowledge of palliative care were interested in learning about this new concept and in acquiring its benefits.

> "When I was registering for the course, I did not know what it was all about so I really wanted to know what palliative care was all about and the various things, the outcome of it, how it will change me or impact me as a nurse student" (FG1P8).

A good number of the students had this broad intent to acquire competencies in the care of the dying person. Since they had had challenging prior personal and professional experiences in the care of the dying, they envisioned that the course will offer them a repertoire of nursing interventions that can be accorded to someone who is dying.

> "When I registered for the course, I really wanted to know how to care for somebody who was dying, the various

> rules, the various things that I can say to someone who was dying to help the person die peacefully" (FG1P6).

Some students anticipated that the course will help them make meaning of their past clinical and personal experiences and enrich them with competencies for improved care in similar future situations.

> "I was very eager to register for the course, in order for me to address certain situations that I have seen in the hospital before" (FG3P4).
>
> "…I had an experience, I had my grandmother in the house that was sick, and I had nothing to do, but just sitting by her, I did not know what to do until she finally died. So when I registered for this course I wanted to learn what I can do in such situations to help people who are suffering" (FG1P1).

Others were expecting to clarify their misconceptions about, or improve on their understanding of the concept of palliative care in general. These were particularly students with preconceived ideas on the subject of palliative care.

> "…so attending this course, basically I wanted to clear my mind of all this conflicts on the topic of palliative care" (FG3P1).
>
> "From my previous knowledge of palliative care, I thought that palliative care was just care of the dying, so I had to participate in this course to see if there is anything apart from that, and that if there was something more, I will be able to learn it to improve on palliative care in Cameroon" (FG2P7).

Some students wanted to fill the gap in their existing curricula, while others wanted to gain a comprehensive view of nursing. A few said they wanted to learn in order to meet up with international standards and to avoid any future challenges in their practice and in the nursing profession as a whole:

> “I knew it was very important for us student nurses to know about palliative care because it is not included in our training curriculum” (FG1P4).

> “From the definition of nursing which says that nursing has to do with helping individuals sick or well to gain independence as quick as possible or to a peaceful death, so I was really interested in the course because I knew palliative care was to focus on the part of leading the patient to a peaceful death” (FG3P7).

> “…I have always had this thing in me that if I graduate as a nurse today, trained in Cameroon, I should be able to perform as a nurse wherever I am placed in the world, I should be able to meet up with the standards of the other nurses so I knew that attending this course will help me attain that goal” (FG1P2).

8.2.2 Content and educational strategies expectations

Students were expecting to encounter topics relating to the concept of death and dying, care at the time of death and after death care during the course. These topics seem to have been carefully selected by them to reflect their outcome expectations. Since most of the students who registered for this course said they wanted to enhance their competencies to care for a dying person, they expected to be exposed to lectures relating to this broad intent.

> “Before going in for the course, what I knew I will come across was that they will take time to outline the different stages of dying... to explain what the role of the nurse is when somebody dies, the way she will prepare the person, the way she will help the family and the counselling you need to give to the family, when somebody dies. Also how to deal with the kind of disease the person dies from” (FG3P5)

> I had learned of something that a dying patient has some rights, has some duties that the nurse has to fulfil for the patient, so I was expecting to learn this from the course (FG1P2)

Almost all the students said they were expecting the educational approach to be more of practical learning experiences, exposing them to real clinical practice opportunities in hospitals or community settings with patients who are approaching the end of life. In the following except one student presents the issue and is supported by another.

> "I thought it was going to be something practical, where maybe we have to go to the community and then we try to see how we can help those who are really suffering and ill" (FG1P5).

> "I also thought that they will take us to a place to see people who are dying, because I have never been opportune to see a dying person… I knew that maybe this was the opportunity to go to the hospital or to anywhere to see people who are dying. To see the changes that they go through and what can be done to alleviate their suffering" (FG1P8).

8.3 Students' report of their experiences of the course

These students expressed varying experiences during the course, both positive and negative. However, on a general basis, the course was well received by the students and they seemed generally positive about their experiences of the course. These experiences are discussed under the 4 subthemes including: connecting with past personal and professional experiences of end of life care, a realization of the importance of palliative care, a desire for a little more education and support and ambiguity of feelings about the course.

8.3.1 Connecting with and reflecting on past experiences of end of life care

The palliative care course seems to have made students to connect with, reflect on and synthesize their past personal and professional experiences in the care of patients who were approaching the end of life. During the course, students were engaged with re-examining and re-evaluating their past experiences in palliative and end of life care and thinking about how better they could practice in the future. These connections and reflections seem a positive element of self-assessment and learning for the students. Here is what some students said:

> "Before the palliative care course, I had once worked in the intensive care unit…. So when I did this course, I reflected back and I really saw that there were many things which I could have done at that time for them, but which I did not have that knowledge to do" (FG1P2)

> "... when I reflected back at home on what happened when my step mother died. She died in pain, of cancer pain and she was always crying, she was in great pain and she grieved. And I regretted, if I had done this course before, I would have helped her to die peacefully" (FG2P3)

8.3.2 A Realization of the importance of palliative care

Participating in the palliative care course and post-course clinical practice experience seems to have enhanced students' understanding of the need for palliative care, and how important palliative care education is to nursing.

> “it is, from the course I discovered that it [palliative care] is an integral part of nursing and should be included in the training program. I might not use it only with my patients in the hospitals but even at home, even with my own family” (FG3P6).

Thus they recommended that palliative care education be made an integral part of nurse training in Cameroon at both the undergraduate, postgraduate and professional development levels.

> ”We should not only give the course to University of [name withheld] nursing students, we can go to other nursing schools around, so that all the new nurses that are going to be graduating should really have this knowledge of palliative care (FG2P5).

8.3.3 A desire for a little more education and support

Some students still expressed some self-identified learning needs after the course. They reported that the course helped improved their palliative care knowledge but was not quite sufficient in developing their palliative care skills and enabling them to practice palliative care in the clinical setting. Based on these they recommended that the course be delivered again.

> “I really think that we should have some lectures again so that we could improve on some of our palliative care skills” (FG1P4).

> “I think that continues knowledge or broader knowledge on the aspect of palliative care will be needed to help me take care of the patient in that case” (FG3P1).

8.3.4 Ambiguity of feelings about the course

In one of the focus groups, students had a discussion about whether or not they liked the course. Some students, although they were of the opinion that the course was important to them, said they did not like the course because it concerned the dying. However, others thought the course was worthwhile, even though it focused on dying. This is demonstrated in the following interaction.

> FG2P3: "I wished you would have asked us if we liked the course or not"
>
> Interviewer: "Okay so did you like the course? "
>
> FG2P3: "For me, I don't like saying this, but I don't actually like it, because, I cannot be dealing with clients that are terminally ill, and then I am helping them to a peaceful death, and for most of them if you have to improve on their quality of life it will take a very longer time, working with people that are in great difficulties who may not even appreciate the care you offer…, most of those clients who are asking you some types of questions, why is it me?, when will I die?, so I don't like working in such units".
>
> FG2P6: "To me, I like the course, because it gives me so much joy, to take a patient from a level of complete depression, to a level of acceptance of what he/she is facing and a level of truth. It gives me so much joy to see a patient who knows that what I have cannot be cured by the medical, by the drugs that will be given to me, but at least my quality of life will be improved and they are happy about it and they are happy to live with it".

8.4 Students' evaluations of the course

In evaluating the course, considerations were given to all its features: content, processes and outcomes. Students' perceptions of the impact of the course have been presented in chapter 6. In this section, I present students' evaluation of the course content and processes, its strengths and weaknesses, as well as their degree of satisfaction with the course. The students particularly described this course as: 'beyond expectations', 'as a real eye opener' and as 'beneficial'. They also reported a number of strengths and weaknesses of the course, and suggested enhancement strategies. These are explained in details in the following paragraphs

8.4.1 Students' descriptions of the course

8.4.1 The course as 'beyond expectation'

All the students expressed some degree of satisfaction with the course. Most of them reported that their expectations of the course were met and even surpassed. These very positive evaluations of the course by the students need to be taken with caution, as it might have been the resulting of social desirability responding (with an intention to please me). This can be demonstrated in the following excerpts where students support each other's' view about this experience:

> "The course was really more than expected" (FG3P8)
>
> "I will say, like [FG3P8] earlier said, it met beyond what I thought" (FG3P5)
>
> "My expectations were really met and I am happy I did attend the course" (FG3P1).

In particular, their expectations relating to outcome and content were perceived well, i.e. the course content, and what they expected to achieve after participating in the course were generally said to have been attained. However, they felt that the course fell short of their expectations regarding the learning processes. They expected the course to be more practical, exposing them to real life, supervised clinical practice experiences in the care of patients and their families who were experiencing the end of life.

> "During the course, I think I learned even beyond what I was expecting, from the previous knowledge I had, I had other things added about the course showing that it is really a wide course with many developing concepts" (FG2P7)
>
> "I have been given the theory, but I really wanted to be at the hospital to see how it is being done and to see how the patient is reacting to it and how they are communicating. That is what I wanted to know" (FG3P2).

Other students said the course was quite beneficial to them and of relevance to patient care. One student reflected back on the benefit of implementing his palliative care learning with patients in the hospitals and said:

> "The course has helped me so much. When I see those happy people [patients and their families], the course has helped me as much as it has helped my patients. That is the measure to which I can quantify the help it has given me" (FG3P5).

8.4.2 The course as 'a real eye opener'

The palliative care course seems to have been the first exposure to the concept of palliative care for some of the students and this was a beneficial experience to them. This experience was described by one student as “a real eye opener”. This course was vital in raising her awareness about palliative care and its relevance in the care of people living with HIV/AIDS.

> “Before, I did not know the meaning of palliative care. This course has been a real eye opener…I only knew that if you have AIDS/HIV, you are just like someone who has malaria, you will be given treatment and if you die, then that is it. I did not have any idea that you needed to take care of these people, so that they can live better, and have a good quality of life. I did not know, so the course has really helped me a lot”. (FG3P4).

Most of the students felt that it improved their understanding of palliative care as a whole and opened their minds to the importance of psychosocial care as well as the need to have a positive attitude towards patient care.

> “It really benefited me, first of all it broadened my scope…my mentality before was usually going to serve drugs, maybe talk a little bit to patients… Really knowing that my attitude could make a very big difference in the life of a patient or a family, so the course...created some more empathy in me” (FG3P8).

Others reported that the course made clear the idea that nursing can also aim at a peaceful death. They felt that it showed how nurses could assist patients to a peaceful death. This helped them to see more meaning in the nursing profession and provided them with a more comprehensive view of nursing.

> “the course helped me to see more meaning in the profession. Because sometimes I used to ask myself what is really unique about this profession that you will take care of somebody and the person still dies. It was like a question that I had asked myself for long with no answer. But after I attended this course, the course helped me to answer this question” (FG1P4)

They also said it enabled them to realise that palliative care is integral to nursing care and needs to be a component of nurse training.

> "it is from this course that I discovered that it [palliative care] is an integral part of nursing and should be included in the training program. But since it is not included in my own training program, I had the benefit of learning it" (FG3P6).

Some of the students felt that the course made them to realise the importance of being more engaged during placement learning, and to develop a positive approach towards clinical practice during internships.

> "At first when I went for internship, I was just like moving around and waiting for the time for medication administration. I noticed that after drug administration, I could now go back to my patients and talk with them to create a nurse-patient relationship so that they can then tell me more about their problems" (FG1P4)

8.4.2 Students' perception of the strengths of the course

A good number of factors were perceived by these students as enhancing their learning during the course. These they considered the strengths of the course and included: the use of a variety of educational strategies, the novelty and relevance of course content, and the course facilitators,

8.4.2.1 The use of a variety of educational strategies

Most students greatly appreciated the use of a variety of teaching methods during the course. At the first instance, they said the educational methods were student centered and they found this significant in improving their learning during the course. They felt that their learning needs were placed at the centre of activities. Moreover, they appreciated the fact that they were involved in and allowed opportunity for active engagement with the subject matter and classroom activities and not just prescribed rigid learning task, or presented material to be absorb passively.

> “One of the methods that were used during the sessions that really enhanced my learning was for the teaching styles. It was more students centered...It was not like the facilitators were just imposing on us to understand or to assimilate what they were giving us, but they were trying to make it more interactive”(FG1P2).

The students reported that the educational strategies promoted interaction among the students and facilitators. They appreciated the fact that their cognitive states was assessed at the start of each session, and used as the platform for building more knowledge. They found these to be more stimulating and interesting and reported it was significant to increasing their motivation, participation and enthusiasm for the course, thus enhancing their learning.

> “It was more of an interactive class, more of exploring what we know, cancelling the wrong concepts and giving us what is right, so it was kind of you participate with the lecturer and I think, whatever you participate in doing, it sticks more into your brain than what is just told to you” (FG2P6)

They said the role play was an effective learning tool that made the course more practical and gave them an opportunity to rehearse skills in a safe and supportive environment. What particularly allowed them the opportunity to observe and experiment good practices in communicating with patients who are approaching the end of life, and in experiencing the various attitudes, modes and feelings these patients can portray. In addition, they said it was what helped them to integrate theory and practice and it provided anticipatory guidance for real practice in the future.

> "In line with what she said, when [name of facilitator withheld] came for his own session, I really enjoyed it. The manner in which he tackled the various modes the patient could portray, It was really interesting because normally in the classroom, we assume things, but putting it practically, it really gave you a picture of what you can come across in the hospital and by doing so, he gave me some insights or some tactics that I as a nurse could like portray or apply when I am in the clinical setting" (FG3P8).

The students valued the group discussions and considered them beneficial in encouraging teamwork, and improving their team working skills, with a potential to enhance team work in nursing practice. The clinical case scenarios that were the basis for the group discussions were also valued.

> "The group discussions, especially concerning communication, breaking bad news and all that, we were shared into group…. That was an important strategy, because you cannot work as an island. Nursing involves practicing with colleagues. This strategy enhances togetherness and partnership in everything you do" (FG2P4).

> "What enhanced my learning were the different case studies that they gave us to work on. Like what they gave to my group that a mother is suffering, she is terminally sick and she has two very young daughters to take care of, and asked us to discuss how we will provide care to them"(FG1P1).

The use of audio-visual educational materials was also appreciated by the students and considered beneficial to the learning of palliative care. The experience of certain pictures was seen by them as providing anticipatory guidance for what they might experience in clinical practice. They said they were able to appreciate the good and bad sides of palliative care, from the photographs of patients with life-threatening conditions that were presented and these helped to improve their preparedness for palliative care. The following interaction demonstrates how students agreed on the importance of using pictures to demonstrate issues in palliative care education.

> "The pictures really gave me an image of the good and the bad side of palliative care and it prepared my mind a lot. Besides, the pictures I saw, I don't think I have seen something worse than that in the hospital, so the cases I saw, they were not as bad as what I imagined. So the pictures really raised a lot of preparedness which has helped me and it enhanced my understanding a lot" (FG3P5).
>
> "I am really in line with what [FG3P5] has said because me seeing the type of conditions that they showed to us, they were conditions that were really critical and I have never seen such before. So showing me those conditions, I knew that after this course I should be prepared to face those types of challenges, so, that really made me to be more prepared for palliative care" (FG3P6).

Moreover, using a variety of audio-visual pedagogic techniques was seen by these students as a strategy that incorporated students with diverse learning styles, and that enhanced learning, enjoyment and interest. They equally felt it was important in stimulating positive emotions and developing positive attitudes towards nursing.

> "the videos, audios that we heard and watched were very touching and they made us feel or they made me feel more empathic in my nursing profession, and made me to know that there are people out there who need me" (FG2P4)

A few students said assessing their prior knowledge at the beginning of the course was vital. They reported that the pretest was a good diagnostic tool for them, and was helpful for a self-assessment of their knowledge gaps and learning needs. They said it aroused their interest and motivation and gave them some notion of what to expect during the course. This made them more prepared to learn during the course. The following interaction demonstrates students' view on this aspect.

> "The pretest that was administered at the beginning of the palliative care course, was so important and helped me to learn a lot, because during that pretest, I discovered that there are many things that I did not know and I really prepared my mind to learn" (FG2P5).

> "In addition to what [FG2P5] is saying, the pretest was almost very confusing because it was talking about morphine and pain, a lot of things that I had never heard or seen in my life. So it made me to know what to expect during the course and it really enhanced my learning" (FG2P2).

Questioning during the sessions was also reported by the students as a significant strategy that enhanced their learning. They said it was a good way to activate their prior learning and identify their knowledge strengths and weaknesses. Moreover, they saw the questioning approach to be facilitative and encouraging participation.

> "Sometimes, what they did is they pose a question and then ask us to give what we understand about it, give our

> answers...it was kind of facilitative, they were building up on what we already know” (FG3P2)
>
> “the method that really got me during the course was that room was given for students to ask questions and to give their own”(FG1P8)

They also said the availability of free learning resources and supplemental reading materials like the palliative care manual that was used during the course was significant to keeping them engaged throughout the course, and this facilitated their learning. They said it guided them on the materials to be covered during the course.

> “The first day that we got into the class, there was a textbook given to us. Honestly, I knew that if they ask us to pay for this book, I will just leave there and go home, because there was no money to pay for the book. So the fact that we did not pay for the book, we are grateful for that. And also, we could go back home and relook at what had been taught. Because I remember that at the end of each class or at the end of the day, they will tell us what we will be looking at on the next day. So we could go back home, using the book and to read something and to come back to the next class, at least half prepared” (FG1P3)

8.4.2.2 The novelty and relevance of course content

Engaging with new content was particularly important to these students and raised their enthusiasm for learning during the course.

> “What enhanced my learning was the fact that it was a new concept. It was a new field, I have never heard of it before, so it was so interesting because I wanted to learn everything that I could learn to add to my knowledge (FG2P2)

Students reported that the emphasis on the message that there is always ‘something you can do’ in palliative care, by the facilitators, was significant to their learning. This seems to have been the take home message from the course.

> "The fact that they brought in the concept that in palliative care we never say there is nothing we can do. There is always something that we can do. That was really significant to me. That is really what touched me during the course". (FG2P1)

8.4.2.3 The course facilitators

Most students greatly appreciated the fact that expert palliative care nurses and nurse educators were used as facilitators of the course. They found this important in providing them with relevant information.

> "the fact that experts too were involved in the course, we could really get professional knowledge and not just any types of information"(FG1P8)

They also reported enjoying the manner in which this course was facilitated. They felt they were allowed the opportunity to engage actively with the subject. In addition, they were positive of the fact that facilitators did not treat them as 'blank slates' but could explore their views and cognitive framework and use it as the platform for further knowledge.

> "During the course, all the instructors, you see that the way they were teaching; when they wanted to start teaching anything, they gave us room to bring out our own points, what we think...they made us belief that there is nothing from space or elsewhere that they are carrying to come and give to us, that the things are just within us, and we just need to put them in practice" (FG2P1).

In addition, the students thought that the course facilitators' degree of seriousness in planning and implementing the course gave them an insight into how important and relevant this course was to them. They said this was a significant factor in their participation and engagement throughout the course.

> "…what really caught my mind that I decided to be a part of it all through was when I saw the booklets that were given out, printed and in colour, and I said it means these people are serious about this thing, because somebody will not spend this kind of money if the person is not serious in doing something. So I knew that if they are serious, then let me do my best to be serious and it really created a lot of readiness in me and it made me to know that I need to take this thing serious" (FG3P5).

> "Since I had heard about palliative care once or twice, and you brought it up. It turned out that we were out for community health practice, you took the pain hired buses, took care of our transportation, brought us to school, and not only ending there, providing us with palliative care manuals. That was the basis of every interest and every dedication. It showed how important the knowledge of the course was and how very necessary it was to be embedded into our practice" (FG2P4).

8.4.3 Students' perception of the weaknesses of the course and suggestions for enhancement

They reported some aspects of the course as falling short of their expectations. These included issues regarding the lack of supervised clinical practice, workload and course duration, poor psychological climate and non-multidisciplinary nature of the palliative care course. These are explored below.

8.4.3.1 Lack of a supervised clinical practice in palliative care

A major weakness talked about by almost every student was the lack of supervised clinical practice component of the course.

Although they appreciated the theoretical component of the course, they said they needed to have real encounters with palliative care patients, practice with them and receive feedback on their practice from experienced nurses, with palliative care skills.

> “The only thing that I can say did not meet up with my expectation was that I will have loved to have a working example...to have a patient in the hospital that the lecturers were following up. Although there were some case studies of past patients and also the experiences of the presenters, but I will have loved that we should have a working example of such patient to help us to better understand” (FG1P2).
>
> “Though there were some demonstrations, but some people were still like wondering, but how does a palliative care client look like. So if there were some teaching and then we had some opportunities to work with some of the clients, at least, it could make the course more interesting than it was. (FG2P7).

There were also instances during the course that some students felt more practical demonstrations, in both the classroom and clinical setting could have enhanced their learning. This was often with regard to pain management, morphine administration, and communicating with patients and their relatives.

> “...when I started finding out that morphine was of great use in this field, actually I have never seen morphine, so I thought maybe they will bring some of it to class. Also having some of the facilitators being palliative care nurses, I was also thinking like maybe we could have an opportunity to go down and see how a palliative setting looks like” (FG3P5).

This desire actually motivated one student, who had a learning need which was not met by attending the course, to visit one of the course facilitators in the palliative care unit where he works to experience the practical aspects of palliative care.

> "I was really happy at the end of the course, because I took off time to go to [name of hospital withheld] to visit there and to see what it was all about, taking care of those who are dying ... I had to witness how the nurse took care of a cancer patient and for me what was thought in class and what I saw in the hospital is really the same" (FG3P7).

The students recommended supervised clinical practice in both hospital and community setting to enhance course benefits.

> "…In a sessions, let's say there was a palliative unit where we could go after that to be with some patients, even two or three patients in a day, at least we would have applied some knowledge, because I found that there are some things that when we discussed they were very easy theoretically, but to put them in practice, I found out that it was not that easy" (FG2P7).

8.4.3.2 Work overload and extensive course duration

Most of the students felt they were overloaded with material over a day's session and they found it challenging to accommodate this large volume over a very short time. The following interaction demonstrates this point:

> "What did not work well for me is that I don't know how to take so much information in a short period of time. We were taught so many things in one day" (FG1P5)
>
> "I agree with the point that my friend said. I think that teaching too many things in one day was a problem"(FG1P1)
>
> "I think I agree on [FG1P5] and [FG1P1] point (FG1P2)

Some of them felt that the sessions were too lengthy and they found it uneasy sitting through the long sessions. Here is what one student said:

> "I don't know if it is really what you want to know, but I really got very angry with the time issue, because it was really long. I have never sat in place like that for just one thing" (FG3P1).

In this regard, they suggested that subsequent courses could be shortened.

> "In order to make the course more interesting, like I observed during the classes, most of the sessions were too lengthy, like the course on communication, although it so very interesting, I think it took more than two hours, like from 8am to around 12:00. That is what made some students to be sleeping. I think next time the discussions should be maybe so summarized, because you really see that the points are coming out at certain times during the course but at other times you see like it was boring" (FG2P5).

8.4.3.3 Poor facilitation and psychological climate

Poor examples of facilitation were also recounted as a weakness. Students complained that some facilitators used ineffective facilitation strategies, like presenting lengthy explanations, which sometimes made the sessions boring.

> "My own was the lengthy explanations. There were some lecturers, the things were so clear, you could easily understand. He explains, drag and drag, and they waste time on something that could have been used to cover other topics" (FG3P8).

> "Some of the facilitators were, I don't know if that is the way they talk, but they were at times really boring" (FG2P4).

One student reasoned that the poor facilitation was because some of the teachers were strange and not acquainted with their learning styles.

> “We had strange teachers that came in from different institutions and we were not really acquainted with them. But I think if we have our lecturers that are here with us teach us, they would have known how to break it down and handle it piece-meal such that students could understand better. But some of them just came and wanted to pass on too much information in a very short while and we could not really like understand very well” (FG1P4).

Students recounted certain classroom experiences that they were not happy with because it had negative impacts on their emotions and made them to develop negative feelings about the topic of palliative care. Firstly, the fact that during the course dying was a major concept talked about aroused paralyzing fear, as well as death related concerns and anxieties in some students. Secondly some students were not comfortable when in citing examples facilitators referred to them or inquired what their own thoughts were regarding their own dying.

> “Another problem I faced during the course was just the terms that were used. Like the [name of facilitator withheld], was just like referring it to us, somebody like me I was scared of it. He was using us like an example, so I became so depressed in the class, and I don’t know, I did not like me the course again (FG2P3).
>
> “I just wanted to add that all along the palliative care course, they were only talking about dying, dying, dying, dying. So everything I was just hearing was dying, dying, so it was really disturbing” (FG2P5)

8.4.3.4 Non-multidisciplinary nature of the palliative care course

Another reported weakness was the fact that the course was limited only to student nurses, not including medical and medical laboratory students. They reasoned that since palliative care is multidisciplinary in nature, including other health professions students could enhance collaborative practice in future. They also felt that the inclusion of other health professions students is essential if the course is to have an impact on practice. Moreover, they reasoned that if the other members of the wider care team with whom they are to collaborate in providing palliative care lacked knowledge about palliative care, patient care will be ineffective.

> "I think that when we talk of palliative care we were being enlightened about the fact that it has to be multidisciplinary. So I don't think it had to include only the nursing students, as well as it should not include only the level 300 [second year] and 400 [third year] students. Level 200 [first year] students are coming up and they will be having experiences at the hospital, so I think we have to include them. It should include the medical laboratory students and it should include the medicine students as well" (FG3P2).

> "To make the course to be more powerful, for me I think that we can organize something like a seminar for nurses, and even medical students, because I don't think some of them even know about palliative care, so we can organize a seminar on palliative care, we teach the nurses, those who are still in school for training and those who are already working in hospitals, so that they can implement it very well in the field" (FG2P3).

8.4.3.5 The class difference

One student said that combining the second and third year students to take the course together was not a good idea, given the knowledge and class difference. She found this imbalance to be threatening:

> “it was a merging of level 300 and level 400 students and I think my difficulty there was the class difference. So I think next time when they are doing it they should like do it separately for level 300 and separately for level 400, they should not merge the two classes. I feel very inferior studying the same things with my seniors…I think my seniors who are already in level 400, they had already gone through what we are still going through in level 300, so our knowledge will not be the same, so I think if they separate the classes, they will be able to handle us according to our level and also handle them according to their level” (FG3P6).

8.5 Conclusion

In this chapter, I have presented results on students’ expectations of the course, their experiences as well as their perceptions of the strengths and weaknesses of the course and how it can be enhanced. The results that have been presented in this chapter are from the data obtained from the three focus groups conducted in this study.

The findings from this chapter suggest that students registered for the palliative care course with diverse expectations, and were happy at the end of the course that most of their expectations were met. The students found the course beneficial in improving their palliative care competencies, and reported that their learning from the course was enhanced by the varied educational strategies employed during the course. The students however felt that the course was falling short of a supervised clinical practice component. Another reported weakness of this course was with regards to extensive workload and long duration of sessions and poor facilitation approaches and psychological climate.

In the next chapter, I discuss the findings of this study which have been presented in chapters 5, 6, 7 and 8.

CHAPTER 9: DISCUSSION OF FINDINGS

9.1 Introduction

This study was situated within the public health model for palliative care as an overarching theoretical framework. It was aimed at developing, piloting and evaluating the impact of a palliative care course on preregistration nursing students' palliative care knowledge and self-perceived competence and confidence in palliative care provision, as well as on their palliative care practice.

The lack of palliative care content in the curricula of preregistration nurse training institutions in Cameroon and the need for palliative care in this country motivated me to conduct this study. These inspired the development of a 30 hour classroom based palliative care course underpinned by the experiential learning theory. This course was piloted with second and third year nursing students of one University in Cameroon. It was evaluated using a longitudinal quasi-experimental pretest posttest study design, incorporating both quantitative and qualitative methods of data collection and analysis.

The findings suggest that the 30 hour classroom based palliative care course, delivered by nurse educators, palliative care nurses and a chaplain in Cameroon can improve preregistration nursing students' palliative care knowledge and self-perceived competence and confidence in palliative care provision. Moreover, it also suggests that students can transfer their palliative care learning to practice, in the care of patients who are approaching the end of life. It however demonstrates that improved palliative care competences alone are not enough for the transfer of palliative care learning to practice in a resource-poor context like Cameroon. Some factors which are related to the student themselves, the qualified nurses, the practice setting and the patient and family were shown to negatively impact on the learning transfer process.

This chapter seeks to evaluate, drawing on a synthesis of findings, whether the following research questions have been addressed:

1. What are the needs of Cameroonian preregistration nursing students for palliative care education and what should be the components of a palliative care course for this student group?
2. Will preregistration nursing students have an improvement in their palliative care knowledge and self-perceived competence and confidence in palliative care provision after the completion of a palliative care course?
3. Will students apply their knowledge and skills from this course in the care of patients who need palliative care during placement? What factors might facilitate or prevent its use?
4. How do students evaluate their experience of attending this course and what are their perceptions regarding its strengths and weaknesses and how it can be improved?

I begin with a discussion on the palliative care education needs of preregistration student nurses of the pilot University. Next I discuss the impacts of the palliative care course on students' palliative care knowledge and self-perceived competence and confidence in palliative care provision, drawing on both quantitative and qualitative data. I then move on to examine students' report of the transfer of their palliative care learning to practice. Lastly, I discuss students' evaluation of their experiences of the course and how these can be enhanced. This chapter closes with a reflexive reflection on lessons learned and a consideration of implications for future palliative care education initiatives in Cameroon, and other similar resource-poor contexts.

9.2 Needs of Cameroonian preregistration nursing student for palliative care education

Using a curriculum review, pretest survey of nursing students' palliative care knowledge and self-perceived competence and confidence in palliative care provision, focus groups with nursing students, and informal interviews with palliative care nurses and nurse educators' in Cameroon, this study has shown that Cameroonian preregistration nursing students are in need of palliative care education. The key findings are discussed in details from sections 9.2.1-9.2.6.

9.2.1 Palliative care contents of the pilot University’s preregistration nursing curriculum

This study found a deficiency in the palliative care content of the preregistration nurse training curriculum of the pilot University. This curriculum was found to be lacking with regards to international recommendations for preregistration palliative care nursing education (APCA, 2012a; ELNEC, 2012; EAPC, 2004), the recommendations for the education of health professionals in palliative care in Africa (APCA, 2012a; Ddungu, 2011), and in comparison with the preregistration curricular in other countries (Dobbins, 2011; Barrere et al., 2008; Sneddon, 2008; Adriaansen and Achterberg, 2008; Wee and Hughes, 2007; Malory, 2003). Generally, this finding indicates an education deficiency when considering the WHO’s recommendations for the public health approach to palliative care (Stjernswärd et al., 2007). This curriculum therefore cannot develop nurses who are competent to respond appropriately to the diverse care needs of patients and their families who are approaching the end of life. A curriculum revision to include palliative care content was therefore necessary.

The curriculum was also found to be providing students with placement learning opportunities in settings that expose them to palliative and end of life situations, quite early in their training. While these can be important experiential learning opportunities for palliative care, as they can be activated to enhance new learning (Dornan et al., 2011), it is insufficient without adequate theoretical preparation. Other researchers have shared a similar opinion. They have commented that students, while at placement, unprepared and incompetent to attend to palliative care situations may tend to only perceive palliative care as difficult. They may also be exposed to poor practices, which may lead to the development of misconceptions regarding the care of patients and their families who are approaching the end of life (Nicholl and Price, 2012; Mutto et al., 2012; Leighton and Dubas, 2009; Birkholz, 2004). The students in this study, both in the pretest survey and the focus groups, reported prior exposures to challenging encounters in the care of patients approaching the end of life and their families in clinical placements. They also shared concerns about poor practices relating to the care of dying patients that they observed during placement. In this regard, palliative care content needs to be integrated early in the curriculum, in a format congruent with the clinical situations to which students are exposed, to provide them with the core capabilities required for the delivery of evidenced based palliative care (Ramjan et al., 2010).

The pilot University's library was found lacking as far as palliative care textbooks were concerned. This hindering factor to palliative care education is not limited to this University. It was also the experience of resource-rich contexts some years ago. In the USA in 1999, 50 of the leading nursing textbooks were found to have only about 2% of the overall content related to end of life care and there were inaccuracies in the information in these texts (Ferrell, et al., 1999). It has also been reported that many nursing textbooks virtually have no information on care towards the end of life except with regards to prognosis (Davies and Higginson, 2004). These deficiencies notwithstanding, there is need to furnish the library with core palliative care texts that can supplement students’ palliative care learning. It is worth noting that the material context in the field of education is an important determinant of the learning environment and can influence learners’ motivation and therefore their learning (Dornan et al., 2011). Successful incorporation of palliative care content in the pilot University’s preregistration nurse training curriculum therefore will require institutional investment in amenities like technologies for learning palliative care skills, palliative care textbooks, manuals, and audio-visual materials.

9.2.2 Pre-course palliative care competencies of the preregistration nursing students in this study

9.2.2.1 Students’ pre-course palliative care knowledge

Using pretest knowledge survey and students’ self-reports in focus groups, this study found very poor pre-course palliative care knowledge among the participants. The mean knowledge score was very low (5.72/20 on the PCQN scale) and students in the focus groups generally reported a lack of understanding of palliative care. This finding echoes those of other studies in the literature, in which students demonstrated very poor palliative care knowledge. For example, Pope (2013) in the Southeastern United States University found the mean palliative care knowledge score on the PCQN of junior and senior level nursing students to be 11.7 and 12.9 respectively. In Canada, Brajtman et al. (2007) using the PCQN also reported a mean palliative care knowledge score of 12.29. In Jordan, which is another resource-poor context, Qadire (2014) recorded poor palliative care knowledge among nursing students on the PCQN scales, with a mean of 8.0. In India, which is equally a resource-poor context, Velahudhan et al. (2004) and Karkada et al. (2011), although they did not utilize the PCQN scale in their assessment, also found very poor palliative care knowledge among nursing student with mean knowledge scores of 8.7/15, and 6.4/20, respectively. These justify the widely shared views, in the literature, that preregistration nursing students generally lack palliative care competencies.

This study has revealed some specific areas of palliative care where students significantly lacked knowledge. These are explored in the paragraphs that follow.

1. Meaning and philosophy of palliative care

This study revealed a major misunderstanding among the study participants about the meaning of palliative care, its principles and philosophy. A good number of the students wrongly perceived, as shown in the pre-course knowledge survey, that palliative care is appropriate only in situations where there is evidence of a downhill trajectory or deterioration. Moreover, in the focus groups there was also some ambivalence expressed by the students about whether palliative care only related to care during the last days of life. This corroborates the findings of the study by Qadire (2014) of poor knowledge of the principles of palliative care among nursing students. An understanding of the meaning and philosophy of palliative care is vital to effective palliative care practice (WPCA, 2014), and thus needs to be emphasized in palliative care courses.

2. Pain and symptom management

The pretest survey and focus groups also revealed some fundamental and yet widespread and widely shared misunderstandings about the nature of pain and methods for its relief and the risks and benefits of those methods. In the pretest for example, students wrongly thought that placebos are appropriate for the treatment of some types of pain, in palliative care. This poor knowledge regarding the use of placebos in pain management resonates with the wider literature, which suggests that some health care practitioners lack trust in patients' pain reports, and thus often use placebos as a test for pain 'reality'. This practice is deceptive, unethical and unacceptable and has been strongly discouraged by pain management experts. This is because pain perception is subjective, and there is often an expected patients' positive response to a placebo (Brown and Christo, 2011).

These students' pretest survey results and focus group reports demonstrated a lack of understanding with regards to the use of morphine in pain management, in palliative care. Many other studies have similarly found misconceptions about morphine, both among nursing students and qualified nurses (Broglio, 2014; Pope, 2013; El-Nagar and Lawend, 2013; Arber, 2001; Rose et al., 1996). This is in line with views in the wider literature that some healthcare professionals have misconceptions and negative attitudes towards the use of opioids for pain relief, and believe the numerous myths that persist regarding morphine. These often results in poor pain management for patients (Becker, 2010; Edwards et al., 2001), and therefore needs to be appropriately addressed in palliative care educational programs.

3. Communicating with and providing care to the dying

The students in this study reported a lack of understanding of how to communicate with the dying and to break bad news, in the focus groups. The quantitative findings also showed that a good number of students rated their ability to recognize a dying person as quite poor as well as their competence and confidence to talk with a dying person about their death. This lack of competences has been found among preregistration nursing students in most parts of the world, and has been summarized in an integrative review by Cavaye and Watts (2014).

9.2.3 Students' pre-course perception of their palliative care competencies

The students in this study rated quite highly their competence and confidence in palliative care provision before the course, with a mean of 4.04 out of 5. Arguably, a high self-efficacy is expected to mirror knowledge and performance levels (Adriaansen and Van Achterberg, 2008; Bandura, 1997). However, the high ratings of their self-perceived competence and confidence in palliative care provision did not correlate with their palliative care knowledge, which was high. This demonstrates the limitations of self-rating scales in assessing palliative care competencies. This finding is in line with evidence from Frey et al. (2013) who argue that self-reported competence or confidence is often not correlated with true performance, as self-reports are subjective and context dependent. Moreover, research that uses self-report data is subject to socially desirable responding, which is the tendency for participants to present themselves (or their attitudes) favourably according to current sociocultural norms (van de Mortel, 2008). This might have been the case in this study, and it may have resulted from the patchy palliative care related content in the students’ regular nursing curriculum. In educational systems, students are often expected to demonstrate gains in knowledge. Thus the students in this study might consciously (faking good), or unconsciously (self-deception) have wanted to show they had benefited from the palliative care related contents in their curriculum as well as from the wider nursing curriculum.

It is worth noting that in the focus groups students were of the opinion that their pre-course palliative care competencies were poor. The focus groups were conducted two months after the course, giving students the opportunity to analyse in retrospect the gaps in their knowledge, based on what they had learned from the course. Thus they might have given a more objective assessment of their pre-course palliative core competencies. This retrospective self-assessment shall be further explored in section 9.4.2.

9.2.4 Predictors of students’ pretest palliative care competencies

Some associations were found between demographic variables and pretest knowledge. Of significance, students in the 3rd year class and those aged 21 and above had higher pretest scores compared to the rest of the group. This finding may be attributed to the fact that third year students are older compared to second years and being more advanced in their nurse training course, they might have been more exposed to some palliative care related contents in the curriculum, and therefore scored higher.

A recent study of student nurses' palliative care knowledge by Qadire (2014) found that students' palliative care knowledge was significantly affected by their academic level. Thus the potential differences in cognitive states among student nurses from different academic levels should be considered when designing and delivering palliative care courses to a mix group of junior and senior level student nurses.

9.2.5 Students' perspectives of palliative care education

The students in this study were of the opinion that their training curriculum is deficient in palliative care content, and insufficient to prepare them to assist patients to a peaceful death, as is required of every nurse. Based on these they recommended the incorporation of palliative care content in their training curriculum. Other researchers have demonstrated a similar desire among student nurses for palliative care content in their training curriculum, to enhance their skills in caring for a dying person (Mutto et al., 2012; Leighton and Dubas, 2009; Brajtman et al., 2007; Birkholz et al., 2004). This suggests that student nurses actively seek educational experiences that are relevant to their practice as nurses, and thus corroborates the adult learning theory by Knowles (1970). According to Knowles, adult learners will actively seek out experiences that contribute to and reflect their ongoing development, and are intrinsically motivated to learn things they consider relevant to their daily living, practice and career aspirations (Dornan et al., 2011). It is noteworthy that these students while at clinical placement had encountered some challenging end of life care situations and these motivated their enrolment for the palliative care course. They registered for the course in anticipation that it will help them make meaning of their past clinical and personal experiences in the care of the dying and enrich them with competencies for improved care in similar future situations. Similarly, students in the study by Bush (2012) chose to undertake a palliative care elective because of their personal experiences with people with incurable illnesses. This shows that palliative care education that does not address students' learning needs could fail. Consultation with learners about the content and strategies for a palliative care curriculum is vital if palliative care education is to be made relevant and fruitful (fit for purpose) (Ranasinghe et al., 2011; Kenny, 2003).

The students also had a good number of opinions regarding the structure and educational strategies they would prefer in a palliative care course. These are discussed in sections 9.5.1 and 9.5.2 on students' perceptions of course strengths and weaknesses.

9.2.6 Palliative care nurses and nurse educators' opinions about preregistration palliative care nursing education in Cameroon

This aspect of the study, although explored informally, yielded some significant insights. It shed more light on how willing and supportive nurse educators and palliative care nurses are for preregistration palliative care education initiatives in Cameroon. Their contributions and commitment during the development and implementation of the palliative care course in this study are evident of these. In other studies nurse educators have also shared the view that palliative care content in their preregistration curricula is inadequate and agreed on the need to incorporate palliative care content in nurse training curricula. The literature also suggests that nurse educators are in support of and are willing to engage in palliative care nursing education (Youssef et al., 2015; Malloy et al., 2011; Paice et al., 2008; Brajtman, 2007).

The contents suggested and endorsed for preregistration palliative care education in Cameroon by these palliative care nurses and nurse educators (Chapter 5) are consistent with international standards. In addition, a need was perceived by one of the palliative care nurses for the inclusion of content on HIV/AIDS counseling. This is in line with the curricula for the education of nurses in palliative care, developed by Hospice Africa Uganda, which also include content on HIV/AIDS care (Hospice Africa Uganda 2014). This generally is a relevant content for palliative care education for sub-Saharan nurse training institution, given the high rates of HIV/AIDS morbidity and mortality in this continent (WHO, 2012b; UNAIDS, 2010).

It is clear from the above discourse that palliative care education is needed for preregistration nursing students of the pilot University, and Cameroon in general and that some members of the 'targeted audiences' for palliative care education like the students, palliative care nurses and nurse educators (Stjernswärd et al., 2007 p.490) are enthusiastic and willing to participate in this education.

9.3 Impact of a palliative care course on preregistration nursing students

9.3.1 Impact on palliative care knowledge

There was a significant improvement in the overall palliative care knowledge base of this student group after the course. This finding supports findings from previous studies that palliative care education is beneficial in improving the palliative care knowledge of preregistration nursing students (Bassah et al. 2014; Cavaye and Watts, 2014; Frey et al., 2013).

This study, like some comparative studies in the literature found improvements in students' knowledge relating to pain management (Broglio, 2014; El-Nagar and Lawend, 2013; Kwekkeboom, et al., 2006; Arber, 2001). Studies with qualified nurses, have also reported improvements in nurses' knowledge of pain management (Morita et al., 2006; Andriaansen, et al., 2005). Thus it seems that palliative care educational interventions have so far been effective in improving participants' knowledge of pain management.

In addition to improvements in students' pain management knowledge, they also reported improvement in their knowledge of how to communicate with and care for a dying patient and their family. Generally, palliative care educational intervention studies have also been shown to increase students' perception of their ability to communicate with and care for dying patients and their families (Bassah et al., 2014; Cavaye and Watts, 2014).

Although overall there was improvement in the palliative care knowledge base of this student group, there were still some areas of palliative care where students still experienced difficulties.

First, the posttest knowledge scores showed that students still experienced some difficulty in their understanding of the philosophy of palliative care, although they claimed to have improved in their understanding of this topic in the focus groups. The posttest scores showed that students still had difficulty in understanding that the philosophy of palliative care is compatible with that of aggressive treatment. Nevertheless, it seems the wording of this item was a problem. Like Arber (2001), I think that the term 'aggressive treatment' might have been unclear to the students and might need to be revised as 'compatible with disease specific treatments like cancer therapy and antiretroviral drugs' (Lavy and Wooldridge, 2008) or compatible with 'active total care' as is commonly used in the UK (Arber 2001). Some researchers have reworded some of the questions on the PCQN for better clarity and have reported that this revision had no effect on the reliability and validity of the instrument (Qabire, 2014; Morita et al., 2006; Andriaansen, et al., 2005). In addition, some students who knew the right responses before the course depreciated in their understanding of whether the provision of palliative care requires emotional detachment and whether the accumulation of losses renders burnout inevitable for those who work in palliative care. The reason for this deterioration is not immediately apparent and comparability with other studies is challenging, since the items for which students have depreciated have been different for the different studies (Broglio, 2014; Loftus and Thompson, 2002; Arber, 2001). However, it seems students' post-course experiences with patients who were approaching the end of life during placement, might have influenced their response in the posttest. This might be because they struggled and were unsupported during the experience of caring for the dying while on placement, as reported by them. This might have resulted in the perception that palliative care is difficult, with negative emotional consequences.

Secondly, students still struggled with their knowledge of psychosocial and spiritual care. In the focus groups, improvements in knowledge of psychosocial and spiritual care were only barely talked about by the students, although they mentioned implementing this aspect of care in practice. In the posttest survey, a good number of these students did not change their views in 3 main items that relate to psychosocial and spiritual care. This finding is however different from that of Arber (2001) in the UK and Kwekkeboom et al. (2006) in the USA, who recorded improvements in knowledge of psychosocial and spiritual care, after a palliative care educational intervention. This discrepancy might be attributable to the differences in cultural and psychosocial attitudes to death and dying. It is worth noting that in Cameroon most families are extended families with stronger familial ties. The family is a significant part of the care team and family caregivers often assist nurses in performing some activities that are exclusively nursing roles in western societies. Family members will often bath and feed patient and even administer oral medications. Moreover, family members will often converge at the bedside of a dying person when the prognosis of dying is pronounced. This is often considered by both the family and the dying person as an opportunity for discussing the will, saying goodbye and accompanying the dying. This family dynamics might explain why after the course students still felt it is crucial for family members to remain at the bedside until death occurs and that it is easier to resolve the loss of one that is not close or intimate. This finding is similar to the findings of the study by Kim et al., (2011) with qualified nurses in Korea, who did not change their views about the need for family members to remain at the bedside until death occurs, after attending an ELNEC course. Kim et al. (2011) also attributed this observation to the Korean culture. Furthermore, In Cameroon, men are often seen as the 'stronger sex'. While women are expected to weep for the deceased in the open, men are expected to cope better. It is quite common to hear someone say to a man who weeps openly when someone dies: 'you cry like a woman'. Assumptions about better male coping are thus implicit in these sociocultural norms and this might have influenced students' responses in saying that men reconcile their grief more easily than women.

These findings corroborates the views and recommendations by Ingleton et al., (2013) that education alone cannot be sufficient to effect culture change among health professionals, requiring initiatives that can more effectively moderate attitudes and behaviours. Moreover, it also raises issues about the validity of the content of the PCQN scale for assessing palliative care education in the Cameroonian context (Sireci and Faulkner-Bond, 2014). The WHO recommends that palliative care programs should be tailored to the specific cultural and social context of the target population (Sepúlveda et al., 2002; Stjernswärd et al., 2007). Thus palliative care education and the evaluation of its effectiveness need to take these into consideration.

Furthermore, this study’s findings showed very little improvement in students’ knowledge of symptom management. It is worth noting here that during the session on symptom management, there was a power failure and this occurred when the facilitator was doing some pictorial demonstrations of how certain symptoms might present themselves at the end of life. I observed that both the facilitator and students struggled with the presentation. The lack of adequate educational resources can negatively impact on the teaching and learning process (Dornan et al., 2011). Nevertheless, this is where sustained practical experiences in palliative care are needed.

9.3.2 Impact of palliative care course on students’ self-perceived competence and confidence in palliative care provision

The palliative care course was effective for improving students’ palliative care knowledge, but was less effective at improving their self-perceived competence and confidence in palliative care provision. A majority of the students did not experience any change for most of the items on the self-perceived competence rating scale. Overall, the improvements in students’ self-perceived competence and confidence in palliative care provision was not significant. This might have been the result of a ‘response shift bias’ (Sibthorp et al., 2007). At the start of the course most students rated fairly highly their competence and confidence in palliative care provision. After the course, the frame of reference (also referred to as measure scale or metric) they were using to measure their competence and confidence might have changed, given the knowledge acquired from the course, making the pretest-posttest comparison invalid (Gouldthorpe and Israel, 2013). A response shift bias is said to be most prominent when it is likely that the program can change the frame of reference for the participants. This is most likely with participants who lack expertise on the subject matter (Sibthorp et al., 2007). In this light, Gouldthorpe and Israel (2013) state that students sometimes overestimate their competencies prior to training, and suggest that an effective training program has the potential to prompt students to re-assess their abilities to a more realistic appraisal of their competencies. This might have been the case in this study and therefore suggests the program had a positive impact.

Although the posttest survey revealed a non-significant improvement in students' self-perceived competence and confidence in palliative care provision, this result differed from the other data sources. Their palliative care knowledge survey showed significant improvements and correlated with students' reports in the focus groups. During the focus group the students were engaged in a retrospective comparison of their pre and post-course competencies, and were of the opinion that their palliative care knowledge and self-perceived competence and confidence in palliative care provision had significantly improved. Retrospective pretesting is recommended as a good strategy to overcome a response-shift bias, although it is not without limitations (Sibthorp et al., 2007). The focus groups seem to have served this purpose. Notwithstanding, the overly positive evaluation of the impact of the palliative care course presented by the students in the focus groups should be taken with some caution. It might have been with an ‘intention to please’ (social desirability responding). This is likely in all self-report data collection methods, and given that I was the course developer, participated in course implementation and facilitated the focus groups. This has been greatly implicated as a factor in social desirability responding, due to the power relationship that exists between the interviewer and interviewee (van de Mortel, 2008; Sibthorp et al., 2007).

A specific comparison of these results with that from other studies is limiting as the questionnaires used in other studies, differ in content from what was used in this study (Frey et al., 2013). Nevertheless, a comparison can be made on a general basis. This study’s findings resonate with the findings of Gilliland (2011) who recorded no significant improvements in students’ self-reported end of life care competencies, after participating in a planned end of life care placement experience, but said the students reported that they had improved significantly in the qualitative interviews. Notwithstanding this, a greater majority of studies assessing the impacts of palliative care education on self-perceived competence and confidence in palliative care, both with preregistration nursing students (Moreland et al., 2012; Fluharty et al., 2012; Weismann, 2011) and registered nurses (Hedges and Wee, 2014; Hughes et al., 2006; Jack et al., 2004; Loftus and Thompson 2002), have reported overall significant improvements.

An area of significant improvement in self-reported competence, which came up both in the posttest survey and the focus groups in this study, was in students’ communication skills. This finding is consistent with the outcomes of the study by Weismann (2011) and Loftus and Thompson (2002) who reported significant improvements in participants' self-efficacy in communication with dying patients and their families. The students also experienced significantly improvements in their advance care planning skills, based on the posttest survey results. Given that advance care planning was a very new concept to them, they might have made a truer pretest assessment of their abilities on this topic, which ensured that any improvements in the posttest were easily noted.

It is worth noting that after the course no demographic variable was associated with the posttest knowledge or self-perceived competence and confidence in palliative care scores. This suggests that the 30 hour classroom based palliative care course has the potential to significantly improve preregistration student nurses' palliative care knowledge and also improve their perception of their competence and confidence in palliative care provision. Given the impact of this course to the students and their experiences of the course, they recommended it as a compulsory component of nurse training, both in their University and in other nurse training institutions in Cameroon. They equally recommended it for qualified nurses. These findings suggest a high level of satisfaction among the nursing students who took part in the course, as has been the case in comparative studies (Eaton et al., 2012; Gillan et al., 2012; Bush, 2012; McKee et al., 2010; Leighton and Dubas, 2009; Hall et al., 2006).

9.4 Transfer of learning to practice

The material presented in this section has been published by BMC Palliative Care (Bassah et al., 2016). However, it has been modified to improve readability and flow of this chapter.

The literature reviews presented in chapters 2 and 3 has demonstrated that palliative care education is gradually being incorporated into preregistration nurse training programs, particularly in resource-rich countries (Bassah et al., 2014; Cavaye and Watts, 2014, Johnson et al., 2009; Dickenson et al., 2008; Wee and Hughes, 2007). This is important to ensure that generalist nurses can respond to increasing needs for palliative and end of life care, and use the palliative approach in their everyday encounter with patients approaching the end of life (Cavaye and Watt, 2014; Frey et al., 2013; Becker 2010; Shipman et al., 2008). Some studies reporting the development, implementation, and evaluation of the impact of palliative care education with preregistration nurses have been published. The current study and other published studies (Bassah et al., 2014; Cavaye and Watts, 2014) suggests a positive impact of palliative care education on student nurses' palliative care knowledge and self-perceived competence in palliative care provision. Although this is encouraging, it is still not known whether these competencies are eventually translated into behaviors that can lead to improvements in patient and family experiences of care, and care outcomes (Bush, 2012; Brien et al., 2008; Mallory, 2003). Of the few studies that have attempted to investigate this potential influence on practice, particularly with qualified nurses, most of them have often only reported trainees plans on how they intend to change their practice or talked about changes in practice in an imprecise manner (Ballesteros et al., 2014; Ersek et al., 2010; Morita et al., 2006; Adriaansen et al., 2005; Jack et al., 2004). This study seeks to contribute to evidence about the education of preregistration nurses in palliative care by examining how students in receipt of palliative care education in Cameroon report transfer of learning to practice, and what they perceive as the barriers and facilitators of this learning transfer, in a resource-poor context.

9.4.1 Students' report of their learning transfer to practice

The evaluation of the impact of a palliative care course on preregistration nurses' practice in Cameroon suggests student nurses in receipt of palliative care education can use their learning in practice to provide care to patients and their families approaching the end of life. Students reported recognizing patients with palliative care needs, providing patients with physical, psychosocial and spiritual support and communicating patient information to the wider care team. There were, however, some barriers pertaining to the students themselves, qualified nurses, practice settings and to the patients and family caregivers, that hindered this learning transfer, as perceived by the students.

These findings need to be interpreted within the context of self-reported practice data. The use of retrospective critical incident interviews in this study could have resulted in distorted perceptions and sub-conscious editing of the incidents (Schluter et al., 2008). Moreover, students' memory could be imprecise or some incidences might not have been reported (FitzGerald et al., 2008). Although some commentators have reasoned that researchers should be ‘confident in the ability of research participants to tell their story’ (Sharoff, 2008 p306), studies in nursing have shown that direct observation of practice might yield more valid results (Al-Wazzan et al., 2011; Larson et al. 2004). Direct observations can therefore be used to explore student nurses’ transfer of their palliative care learning to practice.

In addition, what is reported, at first sight, all sound like some ‘good nursing care’ which can be provided by any student nurse with a similar level of nurse training in Cameroon, irrespective of whether he/she took part in the palliative care course. It is also not clear whether and to what extent their behavior had changed after participating in the palliative care course, and how the observed behavior relates to the palliative care education received. We agree with other commentators that it can be quite challenging disentangling palliative care skills from routine nursing care skills in general practice settings (Becker, 2010), and measuring the direct or indirect impacts of education on practice (Hedges and Wee, 2014).

However, a critical analysis of these students’ experiences portrays some key features of their reported practice, which could suggest they were using generalist palliative care competencies (APCA, 2012a; Becker, 2010; Dickinson et al. 2008; EAPC 2004). Some examples include being able to identify patients who needed palliative care, recognizing the need and advocating for morphine for a dying patient in severe pain, providing psychosocial support to family caregivers and educating them on patient care, and advocating for social support for a patient who had no family caregiver present. It also suggests increased feelings of confidence, compassion and commitment when working with patients with life-threatening conditions. These are all central to the palliative approach to nursing (Becker, 2010) and entail some of the outcomes intended by the palliative care course they participated in.

In reporting the implementation of their palliative care learning to practice, the students in this study recounted providing psychological support and said they found this more straightforward than other forms of palliative care support. This is an interesting finding that needs further examination in future research. Moreover, despite the palliative care course, the students still reported some avoidance behaviour and expressed a lack of competence and confidence to provide palliative care in some instances. Avoidance behaviour has been reported in other studies with preregistration student nurses (Leighton and Dubas, 2009; Birkholz et al., 2004) and suggests the importance of not regarding palliative care education as a 'one time' endeavour. An effective model should incorporate plans for refreshers, support and mentorship post training and as students advance in their career as nurses (Gamondi et al., 2013 a,b). This is important particularly when students have not developed the confidence that can enhance their palliative care practice or when enthusiasm about and learning from the course may have waned.

9.4.2 Facilitators of palliative care learning transfer

Some of these students made reference to the palliative care course as being a significant facilitator to the care they offered to patients and their families. In addition, these students, both in the focus group and individual interviews, self-evaluated their practices with dying patients, and said their post-course practices were comparatively better. Although I cannot claim that the reported transfer to practice has come solely from students' learning on the palliative care course, given the potential hidden value of these students' nurse training course and of their interactions with patients, nurses and other members of the healthcare team (Tsai and Tsai, 2004), it is a reasonable hypothesis to make. Further research of a different type would be needed to explore further; the only way to do this conclusively would be through a randomized controlled trial. Other studies have documented positive self-reports from nurses about the influence of a palliative care course on their practice, although these have involved qualified nurses rather than student nurses. For example, practising nurses in the study by Loftus and Thompson (2002) reported positive improvements in their pain and symptom assessment and management practices, as a benefit of participating in a generic palliative care course. In a study by Kenny (2003) nurses who had taken part in a palliative care course reported positive changes in their communication with patients. In several other studies practising nurses' self-report of how their participation on a palliative care course have influenced their practice has been positive (Waldron et al. 2008; Adriaansen and Achterberg, 2007; Morita et al., 2006; Hughes et al., 2006; Jack et al. 2004).

9.4.3 Barrier of nursing students' learning transfer to practice

Based on the findings from this study it could be said that a number of barriers may prevent these students from transferring their palliative care learning to practice, and thus hinder the consolidation of learning and the learning of new skills. In this study, student nurses reported struggling with the lack of support from qualified nurses in the practice setting and lack of resources and policy for palliative care, while implementing their learning. They equally said it was challenging implement learning when the family was death denying or the patients were difficult. These resonate with previous findings from studies with practitioners and seem to confirm the claims that the integration of the palliative care philosophy in non-specialist palliative care settings can meet with resistance if staff attitudes, values and organizational frameworks are not clarified (Gott et al., 2012). Moreover, these findings substantiates the WHO's position that the effective integration of palliative care in a society require that all four components of the public health approach (education, drug availability, palliative care policy and implementation) be addressed (Stjernswärd et al., 2007). Other commentators have also recommended educating health professionals, policy makers, and the general public about palliative care, and advocating for adequate palliative care policies and drugs as some ways of overcoming these barriers (Reville and Foxwell 2014; Rajagopal and Twycross, 2009; Webster et al., 2007). In view of these therefore, nurse educators need to: address the values that underpin care both at an individual and organizational level, educate placement sites and mentors about palliative care and how they can support students' placement learning, lobby for palliative care policies with hospitals, as well as educate family caregivers and the general public to create their awareness and possibly gain their support for palliative care practice. These might to some degree improve on student nurses' palliative care learning and learning implementation in clinical practice.

9.5 Students' experiences and evaluations of the course

9.5.1 Strengths of the course

Generally the students felt that the course was an 'eye opener'. This reflects the findings of Ersek et al., (2010) from a study of a multidisciplinary group of professionals who reported that a similar course had opened their eyes to the deficiencies of the care offered to dying patients in Botswana. Like the participants of this study, the student nurses in the study by Bush (2012) also enrolled with varied course outcome expectations and appreciated what the course had offered them. This finding also resonate the findings of the study by Hughes et al., (2006) and Waldron et al. (2008) where the qualified nurses who took part in the palliative care course were of the opinion that the content was relevant to their practice.

A major strength of this course, as perceived by the students, was the interactive, and stimulating educational strategies used during course implementation. These were a mix of both didactic and experiential learning strategies, which have been widely used by preregistration palliative care nurse educators over the years (Dobbins, 2011; DiBartolo and Seldomridge, 2009; Brien et al., 2008, Thompson, 2005; Mallory, 2003). The student nurses in this study, as in the studies by Bush (2012) and Frommelt (2003), also felt that the sharing of real clinical scenarios and personal experiences in palliative care by the facilitators, was beneficial to their learning, and provided anticipatory guidance for future care experiences. These findings are congruent with suggestions in the literature that the use of a variety of educational strategies which incorporates the learning styles of diverse learners in the classroom is integral to effective learning in palliative care (Wee and Hughes; 2007).

Another reported course strength was the supplemental educational resources provided to students, like the textbooks, manuals, and audiovisual materials. According to the students, these were significant in supporting and enhancing their learning during the course. Other nurse educators have used a similar strategy of providing students with supplemental texts, videos and online palliative care educational materials to boost end of life curricula and bridge the limited presence of end of life care contents in core medical-surgical nursing textbooks (Pullis, 2013; Dobbins, 2011; DiBartolo and Seldomridge 2009; Barrere et al., 2008).

Moreover, the students in this study found the use of palliative care nurses and nurse educators as facilitators during the course to be important. They believed that these expert educators and palliative care nurses had professional knowledge and could provide relevant information. This is in line with views in the literature that palliative care education should be provided by experts in the field to facilitate students learning of the core skills needed in the delivery of care (Gamondi et al., 2013b). In several studies, preregistration student nurses have also greatly appreciated the involvement of specialist professionals like palliative care specialists, oncologists, psychologists, hospice nurses, chaplains and experienced lecturers in teaching sessions (Weismann, 2011; Kwekkeboom et al., 2006; Thompson, 2005; Frommelt, 2003).

9.5.2 Weaknesses of the course

Although students recounted many positive aspects of the course, they particularly felt that the absence of a supervised clinical practice component with dying patients was a major weakness. A similar feeling was expressed by a few participants of an interdisciplinary palliative care workshop in Botswana who commented that field or clinical experiences would have strengthened the workshop (Ersek, 2010). In another study medical students in Australia who did not have the opportunity to interact with dying patients after taking part in palliative care education expressed this as a major concern while those who had the opportunity described it as the best part of their palliative care learning (Brand et al., 2015). The WHO in its public health model reiterates that for palliative care education to be effective in increasing awareness, and changing attitudes, skills and behaviours of trainees, it needs to incorporate bedside training during which students are mentored by specialist palliative care practitioners (Stjernswärd et al., 2007). Moreover, some commentators have noted that palliative care courses that do not incorporate high quality practice placement with adequate student support and optimization of learning opportunities can be misjudged as academic and unrelated to practice with consequent widening of the theory-practice gap (Kenny, 2003; Gamondi, Larkin and Payne, 2013b). Adequate clinical experience in the care of patients and their families who are approaching the end of life is therefore fundamental to palliative care education and valuable to authentic learning about palliative care (Gallagher et al., 2014; Stjernsward et al., 2007; Kenny, 2003). In this light, Gamondi, Larkin and Payne (2013b) propose that students be given the opportunity 'to refine and hone skills learnt in theory in a safe and supportive learning environment, which encourages self-reflection and critical thinking' (p.144). They are of the opinion that a placement in a non-palliative care setting, as was the case in this study, may be of equal benefit to a placement in a specialist palliative care setting if students are appropriately supported.

Another reported weakness of the course was that of lengthy sessions. A regular school day for these students is between 6-8 hours. Thus the duration of this course was not unusual. However, they seldom have sessions on the same subject matter for up to 6 hours in a day. It is worth noting that the decision on the various sessions' duration, in this study, was informed by sample timetables for palliative care education workshops found in the palliative care manual by Lavy and Woodridge (2008). Although such timetables have mostly been implemented with registered nurses, it's been found to work quite well. It seems therefore that the complexity of the topic of palliative care was the major issue here. This therefore needs to be considered for future initiatives. More ice-breakers and short breaks can be used in combination with a variety of interactive teaching strategies, to catch and hold students' attention throughout the sessions.

Some students complained about the 'boring' pedagogic strategies employed by the course facilitators, particularly when they overemphasized and oversimplified certain concepts. This is understandable as the facilitators of the course either had not taken a teacher trainer course and lacked experience of teaching undergraduate student nurses or lacked prior formal education in palliative care. I observed that the specialist palliative care nurses had some difficulty with adapting the educational approaches they had implemented in prior courses with qualified nurses to meet the needs of preregistration student nurses. On the other hand, the nurse educators, though portrayed good facilitation skills, did not have a good mastery of the concept of palliative care. These sometimes posed some difficulty for the students. The lack of suitably skilled staff to teach palliative care was also seen as a major weaknesses to the integration of palliative care education within nurse training curriculum in the UK some years ago (Dickinson et al., 2008).

9.5.3 A dichotomy of experiences

In as much as students had some degree of consensus regarding the strengths and weaknesses of the course, there was this dichotomy of experiences in certain aspects of the course. Some students said they did not like the course because it mostly talked about dying, which created some anxiety and fear in them. Others were of the opinion that they liked the course because it focused on dying and helped them to make meaning of the care of the dying. In addition, while some students felt it was a bad thing for course facilitators to make illustrations using them as examples or made reference to their own personal loses, others felt that every student should have been given the opportunity to do the role plays, either acting as a dying patient or a nurse. It seems that the sense of vulnerability felt by some students during the more emotionally charged classroom activities relating to death and dying destabilized them. This might have diverted their attention from the worth of palliative care education, resulting to a dislike for the course. Death anxiety is normal and expected when talk about death and dying are initiated or when a dying patient is experienced (Gallagher et al., 2014; Leighton and Dubas, 2009; Mallory, 2003). Moreover, participation in a course on palliative care can bring to presence some emotionally loaded past personal experiences of dying (Weismann, 2011; Leighton and Dubas, 2009; Brien et al., 2008). Such anxieties therefore need to be appropriately managed, to prevent them from becoming overwhelming. Isba and Boor (2011) recommend that 'the psychological needs of learners have to be fulfilled for a learning environment to stand any chance of being optimal' (p. 102). This suggests that classroom facilitators and clinical mentors should be well prepared to identify and address the various reactions to emotionally charged classroom and clinical activities in palliative care education (Brien et al., 2008).

9.6 The potential benefits of the experiential learning strategy in this course

This study registered significant improvement in students' palliative care knowledge and some improvement in students' self-perceived competence and confidence in palliative care provision. It is noteworthy that the posttest in this study was conducted two months after the course, suggesting some degree of deep learning and retention which might have been a positive influence of the experiential classroom strategies and post-course practical experience of caring for patients and their families who are approaching the end of life. Moreover, the experiential classroom methods were highly valued by the students and they reported that it enhanced their learning during the course.

Reflective and experiential activities have been reported pertinent to palliative care nursing education (Brien et al. 2008) and a preference for these approaches in palliative care education can be seen in the literature (Pullis, 2013; Moreland, 2012; Gilliland, 2011; Weismann, 2011; Leighton and Dubas, 2009; Thompson, 2005; Mallory 2003). Moreover, Ddungu, (2011) in his paper on suitable approaches for palliative care in Africa reiterates that participants of palliative care courses should be given opportunities for the application of learned knowledge through practice including role-plays, discussion of real case histories and clinical practice. With these it could be assumed that the registered study outcomes were a positive benefit of the experiential learning strategies used.

9.7 Limitations of the study

First, this study utilised the single group pretest/posttest quasi-experimental design, which is limited in deducing causal inference. With this design, the lack of randomisation into study conditions results in a lack of unit equivalence, which opens room for plausible alternative explanation of outcomes (Cook and Beckman, 2008). Thus, the internal validity of quasi-experiments, which depicts the extent to which the results of a study accurately demonstrate whether the independent variable caused the effect on the dependent variable, is often threatened (Stangor, 2011; Kember and Leung, 2008). Notwithstanding this limitation, quasi-experiments are ubiquitous in educational evaluation research, since educational phenomenon cannot be studied under laboratory conditions, due to the ethical and contextual issues that typify educational institutions (Steiner et al., 2009; Cook and Beckman, 2008). In this study, although the observed improvements in students' palliative care knowledge, self-perceived competence and confidence in palliative care provision, and in their palliative care practice may be ascribed to the palliative care course in a causal relationship, the lack of a control group cannot permit a true estimation of this impact. The influence of students' normal developmental process (maturation), their normal educational experiences alongside the course (history) and/or the influence of having a pretest before the course cannot be completely ruled out (Cook and Beckman, 2008). This is so because in education settings, students typically are engaged with the wider curriculum and some self-directed learning activities. Moreover, students might remember questions on the pretest or research the concepts encountered in the pretest, in order to perform better on the posttest (Marsden and Torgerson, 2012; Cook and Beckman, 2008). Thus the conclusions of this study should be taken with caution. However, the mixed method to data collection and analysis employed in this study might have strengthened the analysis and minimise the limitations of the quasi-experimental design.

Second, the study utilised self-report data, which open the study to biases like social desirability responding and response shift bias. Social desirability responding was seen to have some influence on students' pretest ratings of their perceived competence and confidence in palliative care provision, as well as their reports of their perception of the impact of the course, in the focus groups. This might have been aggravated by the power difference between the students and I, who was both a course facilitator and interviewer (Confrey and Stohl, 2004). Moreover, retrospective critical incident interviews were used to study students' transfer of their palliative care learning to practice, yielding personal and idiosyncratic data that may be falling short of 'reality'. These limit the extent to which claims can be made about the impact of the palliative care course these on students' practice. Furthermore, a response shift bias was also perceived, which made the pretest/posttest comparison of students' perception of their competence and confidence in palliative care provision somehow invalid. The effectiveness of a pretest/posttest comparison is dependent on the assumption that the scale of measurement or metric is the same before and after an intervention. With self-report data, the metric of evaluation lies within the research participants and this might change after participating in the intervention, making the pretest/posttest comparison invalid (Sibthorp et al., 2007). Although it can be challenging to avoid response shift bias when self-report data is employed in research, its recognition is important to avoid making wrong conclusions and generalisations. Thus the conclusions of this study on the impact of the course on students' perceived competence and confidence in palliative care provision and on their palliative care practice are made with caution. However, the data triangulation method employed in this study might have limited this effect. The significant improvements in students' palliative care knowledge assessed using an objective scale, arguably might be used to confirm students' report of significant improvements in their competence and confidence in palliative care provision and on their palliative care practice. Furthermore, conducting the course evaluation focus groups two months after students had completed the course might have compromised students' recall of their experiences during the course, and thus their report of this in the focus groups.

Third, although the PCQN is acceptable as a research instrument given its high psychometric properties, I think it was not quite appropriate to assess the impacts of the palliative care course in this study. The content of this instrument seem inappropriate to assess psychosocial and spiritual aspects of palliative care in Cameroon. Moreover, this instrument lacks content to assess students' understanding of ethical and legal issues in palliative care, loss grief and bereavement management as well as HIV/AIDS counselling which were also content of the palliative care course. Thus this instrument was not valid based on content (Sireci and Faulkner-Bond, 2014). Moreover, the validity and reliability of the modified version of the instrument used to assess students’ perception of their competence and confidence in palliative care provision was not checked, and might have influenced the results.

Fourth, this study only utilised a volunteer sample from one university, which together with the quasi-experimental design limits the generalisability of the study findings to the general population of preregistration student nurses in Cameroon (Barnes et al., 2012, Polit and Beck, 2010; Shadish et al., 2002). However, given that the study included 64 student nurses in a population of 160, the findings could be generalised to the entire population of preregistration student nurses of the pilot University. Moreover, students’ transfer of their learning to practice was explored only in one placement hospital in the study location, limiting the generalizability of the findings to other placement sites in Cameroon. Nonetheless, this study offers insight into palliative care educational strategies that are transferable and can be replicated in other schools of nursing in Cameroon and possibly other resource-poor contexts. It also sheds some light on students’ transfer of their palliative care learning to practice and the possible challenges and barriers they might encounter in Cameroon, and perhaps other resource poor context.

Lastly, I was the lead in the course development and implementation and I conducted the course evaluation. I acknowledge that my academic, professional and contextual background might have influenced the way I conducted this study and interpreted its findings. However, to the best of my abilities, I was rigorous and employed reflexivity throughout the study (Lambert et al., 2010).

9.8 Implications of the findings

The lack of palliative care content in the curricula of preregistration student nurses of the pilot University, and the very poor palliative care knowledge of this student group warrants a curriculum revision to include palliative care as a discrete compulsory course (Ddungu, 2011). However, if the curriculum is deemed already crowded, a good starting point might be to build on the existing curriculum and integrate palliative care contents in related courses (Pullis, 2013; Ddungu, 2011). This was a successful approach in some two medical schools in Uganda when they were just initiating and advocating for palliative care education for undergraduates in the country (Ddungu, 2011). The approach however is not without deficiencies. The embedded content approach might not give palliative care education the attention it deserves. If students are not properly oriented to understand how contents relate to each other in the various semesters and years, it might become difficult for them to have a hold of the entire picture. In addition, students may tend to look at the knowledge of palliative care as second place, and may not see it as an imperative for their future practice (Gott et al., 2012; Payne et al. 2009). These can be a particular problem when other specialty courses such as: medical, surgical, intensive care and community health nursing courses are freestanding in the curriculum. This strategy therefore needs to be used with caution and with adequate student orientation.

The study’s findings suggest an imperative to include a supervised clinical practice component in palliative care education, to expose students to real practice. Adequate clinical experience in the care of patients and their families who are approaching the end of life is fundamental to palliative care education and valuable to authentic learning about palliative care (Gallagher et al., 2014). A key challenge is in the availability of palliative care competent mentors who can be role models of evidence based palliative care and who can support students in clinical practice. A train the trainer course, discussed in the next paragraph, can help overcome this deficiency. Furthermore, advocacy initiatives for palliative care education and practice policies, in both hospitals and nurse training institutions are needed. It is worth noting here that although Cameroon is classified as a resource-poor country for palliative care, the rich experience of dying patients in the hospital could be considered a rich resource for experiential learning which can be used by both students and teachers.

Given the lack of qualified teachers for palliative care education in Cameroon, it is important to organise a train-the-trainer course to adequately develop course faculty, including classroom teachers and clinical mentors. Brajtman et al. (2007) note that the need to integrate palliative care content in preregistration nursing curriculum, necessitates faculty development and support. This is vital because the lack of faculty expertise has been identified as a major barrier to palliative care curriculum development (Sullivan et al., 2004). Train-the-trainer courses have been shown to improve on this expertise, and a good example of this is the ELNEC project that trains nurse educators to teach palliative care, both in the USA and internationally (Malloy et al., 2011; Malloy et al., 2008; Paice et al., 2008).

Such a course in Cameroon should be based on a needs assessment (Brajtman et al., 2007) and can include contents on both palliative care and basic pedagogic principles. This content is deemed vital, on the one hand to particularly expose the palliative care specialist nurses to basic pedagogic principles and on the other hand to expose the nurse educators to the concept of palliative care. Moreover, this train-the-trainer course should incorporate a clinical practice component, so that trainees can have first-hand experience of palliative care practice in Cameroon, and identify challenges, facilitators and barriers to palliative care practice in the country. These can lend more insights into context specific palliative care issues, which these educators can subsequently take to their classrooms to contextualise palliative care education and anticipatorily guide student nurses for practice.

In delivering a palliative care course to preregistration nurses, facilitators will need to consider certain misconceptions that students may access this course with and therefore incorporate strategies to identify and correct them. An example from this study is the misunderstandings about the nature of pain and methods for its relief and the risks and benefits of those methods. A pretest can help facilitators to identify areas of students' knowledge strengths and can also serve as a self-assessment/diagnostic tool for the student that can guide their learning (Dornan, 2011). Moreover, the potential differences in cognitive states and knowledge gaps need to be considered when delivering palliative care courses to a mix group of junior and senior level student nurses.

At the end of the course, some students still felt that they needed additional or refresher lectures to enhance their ability to implement their learning in practice. This is important particularly when students have not developed the confidence that can enhance their palliative care practice or when enthusiasm about and learning from the course may have waned. This suggests that palliative care education for preregistration nurses should not be a 'one time' endeavor. An effective palliative care educational model for preregistration students nurses needs to incorporate plans for refreshers, follow-up and clinical facilitation post training and as students advance in their career as nurses. This kind of support has also been requested by qualified nurses who have received palliative care education, and is said to be vital in enhancing palliative care practice (Waldron et al., 2008; Kenny, 2003).

Good facilitation is also an important element in the delivery of palliative care courses, as was observed in this study. This requires that palliative care course facilitators should be grounded with skills to deal with some emotional reactions of the students that might arose as they connect to pass personal experiences of death during the course. I observed that it was also quite challenging for facilitators to do many group discussions, demonstrations and role plays because of the large group. Some students were also not very engaged during the group discussions. For effective interactive learning to occur, the group size needs to be small to ensure high quality interactions (Dornan et al., 2011). Small group teaching is also reported to be a valuable strategy for education in palliative care (Wee and Hughes, 2007).

Moreover, course timetable should be designed to be congruent with the regular nursing course timetable in the host institution. For example, with 2 hours slots spread over 13 weeks in a semester as the case in the pilot University. Although there was a good level of interaction to keep students actively engaged during the course implementation, a difficulty with remaining actively engaged throughout the 6 hours was observed among students. Interactivity is an important element of palliative care education, and the methods to ensure interaction must be tailored to the educational objectives and available resources (Wee and Hughes, 2007). Moreover, there is need to allow for flexibility in course plans to ensure the course can be completed despite possible disruptions, for example due to major nation-wide events, as was the case in this study.

Furthermore, this study's findings suggest that the development of palliative care requires the collective effort of the wider healthcare team, hospital management and policy makers as well as nurse educators and student nurses. Thus for nurse educators to enhance students' transfer of their palliative care learning to practice, there is need to address the values that underpin care both at an individual and organizational level (Gott et al., 2012). Placement sites and mentors need to be educated about palliative care and how they can support students' palliative care placement learning. Nurse educators equally need to lobby for palliative care policies with hospital administrators. Family caregivers also need to be educated to create their awareness and possibly gain their support for palliative care practice. These might to some degree improve on student nurses' palliative care learning and implementation of their learning in clinical practice, for better patient outcomes.

Finally, the level of satisfaction by the students in this study and the commitment of the nurse educators and palliative care nurses during course development and implementation seem to suggest that preregistration student nurses, nurse educators and palliative care nurses are in support of this education and will in future participate in palliative care education initiatives in Cameroon. Future palliative care education initiatives however need to empower student nurses and emphasize their role as change agents for palliative care practice in Cameroon. This can be ensured by discussing some possible challenges and barriers to palliative care practice in Cameroon, and exploring strategies to overcome them. Students should also be encouraged to cascade their learning from a palliative care course while in practice. These can go a long way to improve palliative care education and practice in Cameroon.

9.9 Recommendations for further research

This study should be replicated with preregistration nursing students of the pilot University and other nurse training institutions in Cameroon to further validate the course and increase the potential for generalisability of its impact.

A more rigorous study design like a controlled study design can be good, as it may control for plausible alternative explanations. In addition, an objective test of competencies can be a better assessment strategy than self-reported competencies. Moreover, direct observation of students' transfer of their learning to practice might give a more truer estimate of changes in students' behaviour and how they transfer their learning to practice as well as its impact on patient care. Furthermore, a longitudinal study of the students who took part in the palliative care course in this study, might yield information on how their knowledge and competencies in palliative care provision is changing and how they are using their palliative care competencies in the care of patients and their families who are approaching the end of life, as qualified nurses.

A nationwide needs assessment of nurse educators' and clinical mentors' palliative care education needs should also be conducted to inform the development of a train-the-trainer course in palliative care for nurse educators and clinical mentors in Cameroon.

Palliative care educational programs for qualified nurses, patients and family caregivers as well as the general public should be developed, piloted and evaluated. This is vital to raise awareness about palliative care in Cameroon and maximize the benefits of palliative care education in practice.

9.10 Policy recommendations

The Ministry of Health and the Ministry of Higher Education in Cameroon should make palliative care education mandatory for preregistration student nurses, medical student and all students in health and social care who encounter dying patients in their practice in Cameroon. Qualified nurses who work in settings where they encounter people who are approaching the end of life should also receive mandatory education in palliative care.

Hospitals and primary healthcare services should develop palliative care practice policies to guide palliative care practice in Cameroon.

Palliative care should be included as a component of the National Health Strategic plan in Cameroon, and palliative care drugs including opioids should be included in the national drug list and made available for use in healthcare facilities that provide care to patients who are approaching the end of life (WPCA, 2014; Stjernsward et al., 2007).

9.11 Reflections on course development and implementation

It was exciting, having first-hand experience of leading a course development and piloting process, in an innovative field like palliative care, and in a resource poor context. My experience with this project shows that it is feasible and acceptable to develop and implement palliative care education with preregistration student nurses in a resource-poor context like Cameroon, using local and available resources. Nevertheless, it can be a challenging process.

A major challenge was to find creative strategies for this education in a context with limited resources for palliative care education, and a context with limited awareness about palliative care. Other challenges ranged from deciding on the course contents, educational objectives and methods, as well as on the course facilitators. This was because I needed to be critical enough to decide on content that is relevant to the health care needs of service users in Cameroon and to the scope of nursing practice in this country (Ferrell et al., 2015). In addition the choice of facilitators was based on expertise, but yet dependent on their willingness to offer their services free of charge and on availability of resources to fund their travel to the course venue. It was equally not easy making administrative negotiations for the course to be infused into the existing timetable of the Department of Nursing and making sure it all worked well. Managing the unanticipated happenings during the course, was also a major challenge. In all of these, I was trying to find the right time for every negotiation and made sure I sent reminder emails and paid more visits until I got a positive response from the administrators involved. This is not unusual, as the curriculum development process has been described as challenging by other curriculum writers (Wee and Hughes 2007; Uys and Gwele, 2005; Kern et al., 1985).

Although it was challenging, I was positive, enthusiastic and committed. I would say it was a worthwhile and an exciting learning process. This success could be attributable to a combination of several other factors including: the degree of ingenuity, and networking for expert advice; the level of commitment, flexibility and adaptability I employed in this process; the support and commitment of the course facilitators; the support of the various student class leaders in acting as liaison between me and the students for vital course information, and in organising and preparing the venue for the sessions; and the support from the head of the nursing department in making administrative negotiations for the hosting of this course in the department, timetabling, and allocating venues for the sessions, and facilitating all other administrative processes that were needed to enhance students' participation in the course. This resonates with the views of Sullivan et al., (2004) and Ddungu (2011) that the success of palliative care education requires the involvement of Deans and other healthcare education opinion leaders as well as the learners themselves. Many of the approaches used in this process, and described in this thesis, can adapted, improved and employed by nurse educators in similar contexts.

9.12 Conclusions

Preregistration nursing students of the pilot University in Cameroon have a huge need for palliative care education, which reflects a general need by all preregistration nursing students in the country. Preregistration nursing student, nurse educators and palliative care specialist nurses in Cameroon, are supportive of and willing to be take part in palliative care education. A palliative care course for preregistration student nurses in Cameroon, delivered by nurse educators and specialist palliative care clinical nurses in Cameroon has the potential to improve preregistration student nurses' palliative care knowledge, self-perceived competence and confidence in palliative care provision, and provide them with the evidence base for their practice. These findings contribute to the existing body of literature and support the value of integrating palliative care into preregistration nurse training curricula across the globe.

The findings from this study suggest that students can use their learning from a palliative care course in practice with palliative patients and their families. It also suggest there are many barriers to this use, which particularly originate from lack of awareness about palliative care and lack of resources for palliative care amongst qualified nurses, and factors relating to other healthcare providers and patients' family caregivers. Demonstrating the link between preregistration palliative care education and patient care outcome is vital to ensuring that newly acquired knowledge and skills are translated and embedded into clinical practice. This study also has implications for advocating for palliative care policies and adequately preparing clinical placement sites for students' learning and transfer of learning.

This study has addressed the education component of the WHO Public Health Strategy for palliative care (Stjernsward et al., 2007). Particularly, it dwelled on the education of preregistration nurses. This study's findings justify the need and relevance of palliative care education for preregistration nurses. It has also shown that palliative care education can improve nurses' practice with patients with life-threatening and chronic conditions, with some insight into how it can influence and improve patient care experiences. This study's findings suggest and confirm the WHO position that the effective integration of palliative care in Cameroon will require that the other three components of the Public Health Model including: appropriate palliative care policies, adequate drug availability for palliative care, and implementation of palliative care, are addressed vis-à-vis education. Thus advocacy strategies are needed for this holistic approach to the integration of palliative care in the healthcare delivery system of Cameroon, for better patient and family caregiver experiences.

There is some potential that this project can be sustained. The project employed local and cost effective resources, like the nurse educators and specialist palliative care nurses who can be available for future initiatives. The level of acceptance of this course by the students and facilitators is another measure of its sustainability and suggests future acceptability. However there is need for a nationwide train-the-trainer program to prepare educators, palliative care nurses and mentors who can educate and support preregistration nurses' palliative care learning in the country. It might also be worth in the future developing a postgraduate palliative care program to train specialist palliative care nurses who can teach palliative care. These can also ensure transferability to other nursing schools and implementation of preregistration palliative care nursing education on a nationwide basis. Another factor in the sustainability of this project is the need for continuous and more agile advocacy to ensure palliative care education and practice policies are developed and taken up by schools of nursing, hospitals, as well as the education and health ministries. This can be through the creation of a nursing organisation for the advancement of palliative care education, practice and research in Cameroon. Ensuring adequate education and training opportunities and facilities for nurses in Cameroon might go a long way to making a significant difference to the care, at the bedside, of patients who are approaching the end of life and their families, in this country.

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Appendix 1: QUESTIONNAIRE

Section A: Demography

Please indicate your reply with a tick in the relevant box. Fill in the relevant box where applicable.

1. Class: level 300 ☐ level 400 ☐ Study Number ☐
2. What is your Gender? 1. Male ☐ 2. Female ☐
3. What is your Age? ☐
4. What is your Religion? Catholic ☐ Presbyterian ☐ Baptist ☐ Islam ☐ No preference ☐ others ☐ if other please specify ☐
5. Have you had any experience in caring for a dying person? 1. Yes ☐ 2. No ☐
6. If yes, can you state the age, diagnosis and clinical manifestations of one dying patient you cared for?

☐

7. Can you highlight the nursing interventions you provided to this person

☐

8. Have you had any education in palliative care? 1. Yes ☐ 2. No ☐
9. If yes, can you list the topics taught to you in palliative care?

☐

Section B: Palliative Care Knowledge
The questions in this section are meant to assess your knowledge in palliative care. Please circle the relevant answer for each question

SN	Questions	True	False	I Don't Know
1	Palliative care is only appropriate in a situations where there is evidence of a downhill trajectory or deterioration	○	○	○
2	Morphine is the standard used to compare the analgesic effect of other opioids	○	○	○
3	The extent of the disease determines the method of pain treatment	○	○	○
4	Adjuvant therapies are important in managing pain	○	○	○
5	It is crucial for family members to remain at the bedside until death occurs	○	○	○
6	During the last days of life, drowsiness associated with electrolyte imbalance may decrease the need for sedation	○	○	○
7	Drug addiction is a major problem when morphine is used on a long-term basis for the management of pain	○	○	○
8	Individuals who are taking opioids should also follow a bowel regime	○	○	○
9	The provision of palliative care requires emotional detachment	○	○	○
10	During the terminal stages of an illness, drugs that can cause respiratory depression are appropriate for the treatment of severe dyspnea	○	○	○
11	Men generally reconcile their grief more quickly than women	○	○	○
12	The philosophy of palliative care is compatible with that of aggressive treatment	○	○	○
13	The use of placebos is appropriate in the treatment of some types of pain	○	○	○

SN	Questions	True	False	I Don't Know
14	In high doses codeine causes more nausea and vomiting than morphine	○	○	○
15	Suffering and physical pain are synonymous	○	○	○
16	Trabar is not an effective analgesic for the control of chronic pain	○	○	○
17	The accumulation of losses renders burnout inevitable for those who work in palliative care	○	○	○
18	Manifestations of chronic pain are different from those of acute pain	○	○	○
19	The loss of a distant or contentious relationship is easier to resolve than the loss of one that is close or intimate	○	○	○
20	Pain thresholds is lowered by fatigue or anxiety	○	○	○

Section C: Self-perceived Competence and confidence in palliative care provision

The questions in this section are meant at assessing what you perceive as your competencies and confidence in providing palliative care. Please tick the relevant statement for each question

SN	Competencies	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Communication skills						
1	I feel confident to listen to and talk with a dying person about issues surrounding their death	○	○	○	○	○
2	I feel confident to listen to and talk with a relative of a dying person	○	○	○	○	○
3	I feel confident to communicate with a person with advancing illness who says to me 'I can see no meaning in life'	○	○	○	○	○

SN	Competencies	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
4	I feel competent to recognise a person's verbal/non-verbal cues	○	○	○	○	○
5	I feel confident that I can address	○	○	○	○	○

	a person's verbal/non-verbal cues					
6	I feel confident that people in my care have given 'informed consent' before starting treatment	○	○	○	○	○

Assessment and Care Planning

7	I understand the concept of holistic care	○	○	○	○	○
8	I use holistic assessment with people in my care	○	○	○	○	○
9	I feel able to recognise when a person is dying	○	○	○	○	○

Symptom Management, Maintaining Comfort and Wellbeing

10	I am confident about helping people with their pain	○	○	○	○	○
11	I am confident in using things other than drugs to help people to cope	○	○	○	○	○
12	I am confident in how to support a person in distress	○	○	○	○	○
13	I am comfortable discussing a person's anxiety about the dying process and what will happen	○	○	○	○	○
14	I am confident about helping people with the common symptoms they may experience at the end of life	○	○	○	○	○

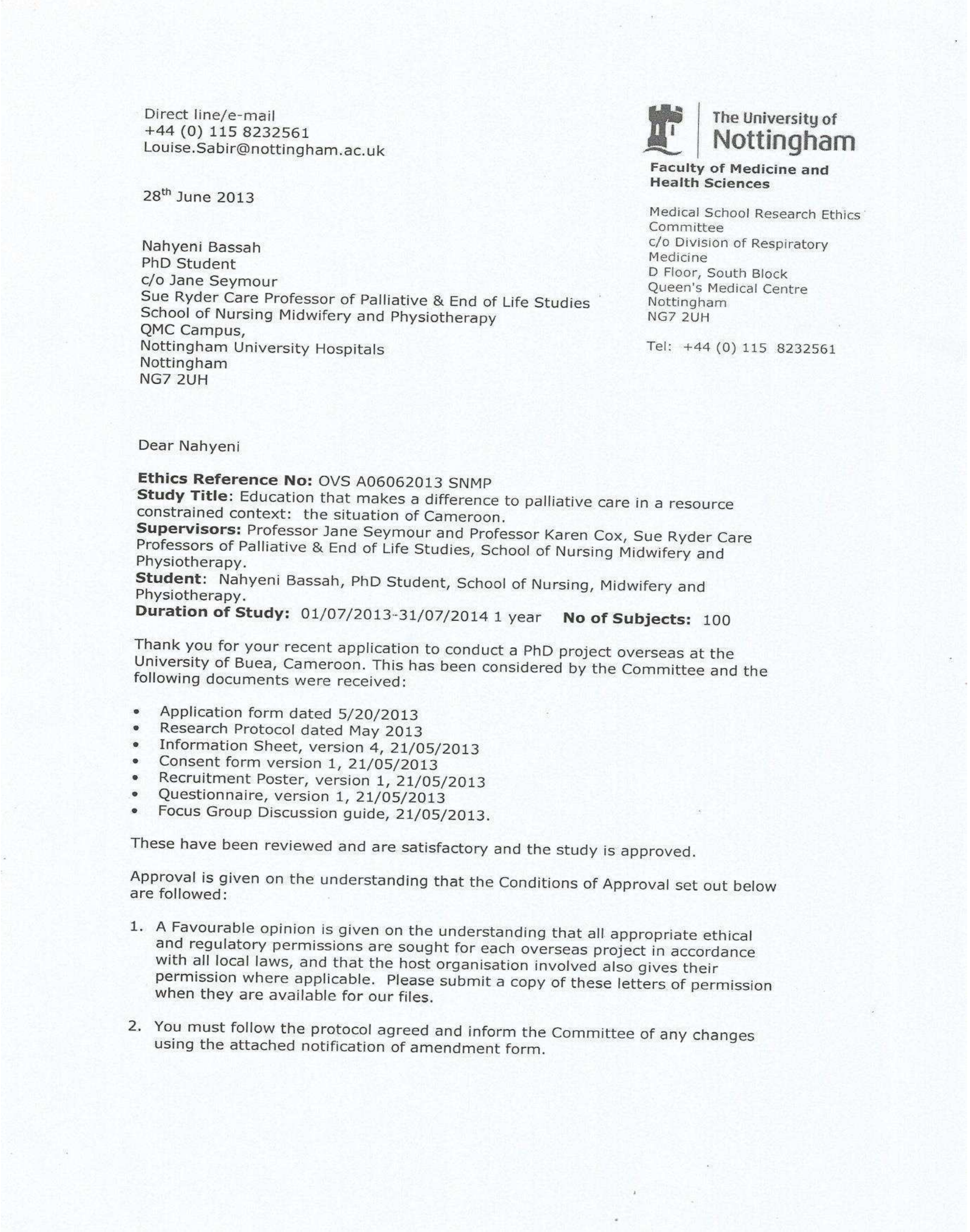
Advance Care Planning

SN	**Competencies**	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
15	I recognise it is part of my role to find out what is known about a person's wishes should they lose capacity	○	○	○	○	○
16	If a person shares with me views about their future care, with permission, I would feel confident to discuss this with the wider care team	○	○	○	○	○

Overarching Values and Knowledge

17	I have thought about what is important to me in the meaning of my life	○	○	○	○	○
18	I recognise that my role is vital in delivering good end of life care	○	○	○	○	○
19	I understand how society and culture influences attitudes to dying and death	○	○	○	○	○
20	I feel confident to be able to support a bereaved person	○	○	○	○	○

Appendix 2: ETHICAL APPROVALS FOR THE STUDY



Direct line/e-mail
+44 (0) 115 8232561
Louise.Sabir@nottingham.ac.uk

The University of
Nottingham

**Faculty of Medicine and
Health Sciences**

Medical School Research Ethics
Committee
c/o Division of Respiratory
Medicine
D Floor, South Block
Queen's Medical Centre
Nottingham
NG7 2UH

Tel: +44 (0) 115 8232561

28th June 2013

Nahyeni Bassah
PhD Student
c/o Jane Seymour
Sue Ryder Care Professor of Palliative & End of Life Studies
School of Nursing Midwifery and Physiotherapy
QMC Campus,
Nottingham University Hospitals
Nottingham
NG7 2UH

Dear Nahyeni

Ethics Reference No: OVS A06062013 SNMP
Study Title: Education that makes a difference to palliative care in a resource constrained context: the situation of Cameroon.
Supervisors: Professor Jane Seymour and Professor Karen Cox, Sue Ryder Care Professors of Palliative & End of Life Studies, School of Nursing Midwifery and Physiotherapy.
Student: Nahyeni Bassah, PhD Student, School of Nursing, Midwifery and Physiotherapy.
Duration of Study: 01/07/2013-31/07/2014 1 year **No of Subjects:** 100

Thank you for your recent application to conduct a PhD project overseas at the University of Buea, Cameroon. This has been considered by the Committee and the following documents were received:

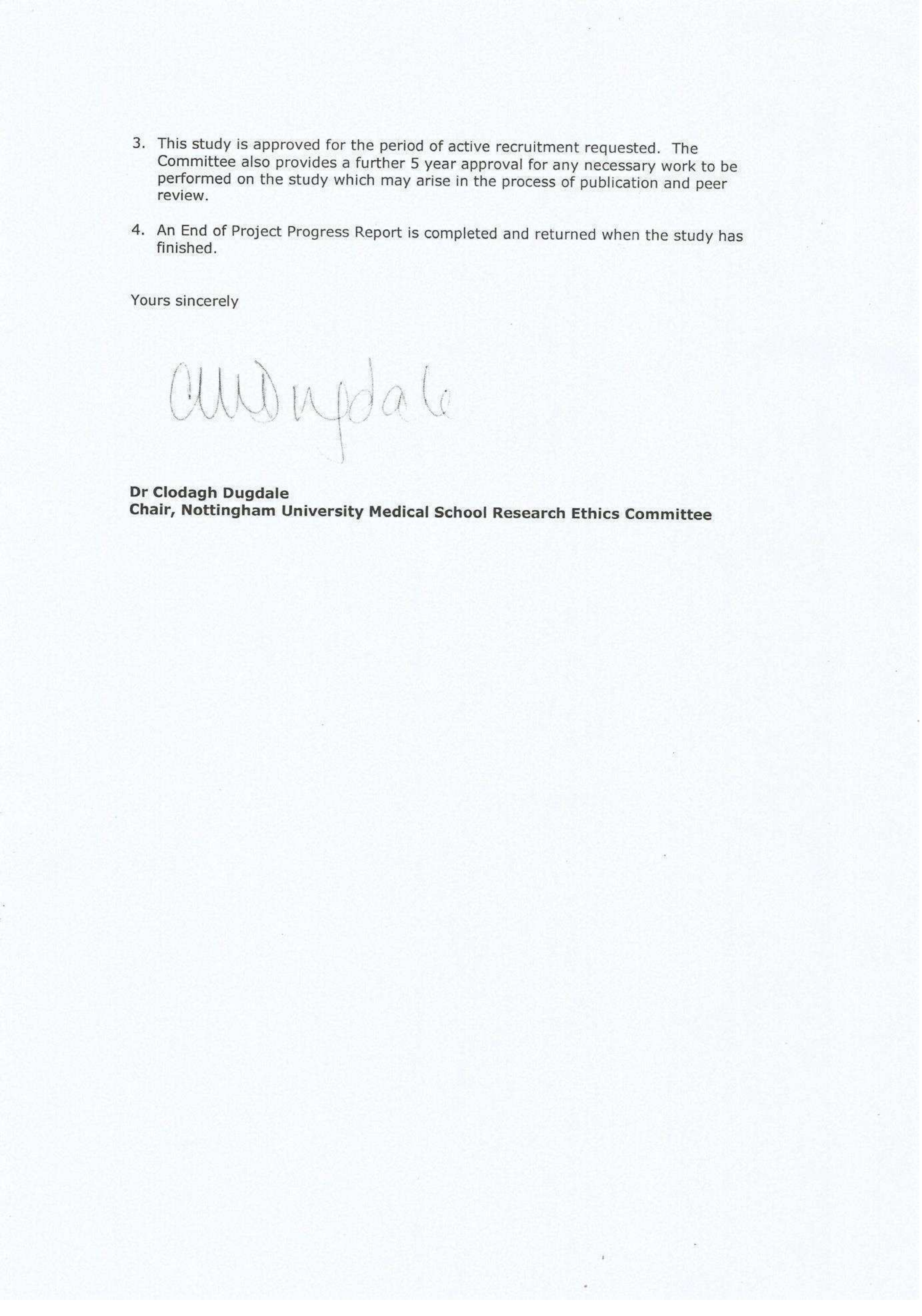
- Application form dated 5/20/2013
- Research Protocol dated May 2013
- Information Sheet, version 4, 21/05/2013
- Consent form version 1, 21/05/2013
- Recruitment Poster, version 1, 21/05/2013
- Questionnaire, version 1, 21/05/2013
- Focus Group Discussion guide, 21/05/2013.

These have been reviewed and are satisfactory and the study is approved.

Approval is given on the understanding that the Conditions of Approval set out below are followed:

1. A Favourable opinion is given on the understanding that all appropriate ethical and regulatory permissions are sought for each overseas project in accordance with all local laws, and that the host organisation involved also gives their permission where applicable. Please submit a copy of these letters of permission when they are available for our files.

2. You must follow the protocol agreed and inform the Committee of any changes using the attached notification of amendment form.



3. This study is approved for the period of active recruitment requested. The Committee also provides a further 5 year approval for any necessary work to be performed on the study which may arise in the process of publication and peer review.

4. An End of Project Progress Report is completed and returned when the study has finished.

Yours sincerely

Dr Clodagh Dugdale
Chair, Nottingham University Medical School Research Ethics Committee

UNIVERSITY OF BUEA
P.O Box 63,
Buea, CAMEROON
Tel: (237) 332 21 34/332 28 13
Fax: (237) 332 22 72

REPUBLIC OF CAMEROON
PEACE – WORK - FATHERLAND

FACULTY OF HEALTH SCIENCES -INSTITUTIONAL REVIEW BOARD

IRB00008917 - US Office for Human Research Protections (OHRP) IORG0007426

Chair : Professor S. Mbua Ngale Efange
Vice-Chair : Dr. Yenshu Vubo
Secretary : Dr Julius Atashili

Date: 01 DEC. 2013

Your Ref:____________________

Our Ref: 2013/ 142 /UB/FHS/IRB

Notice of Ethical Approval

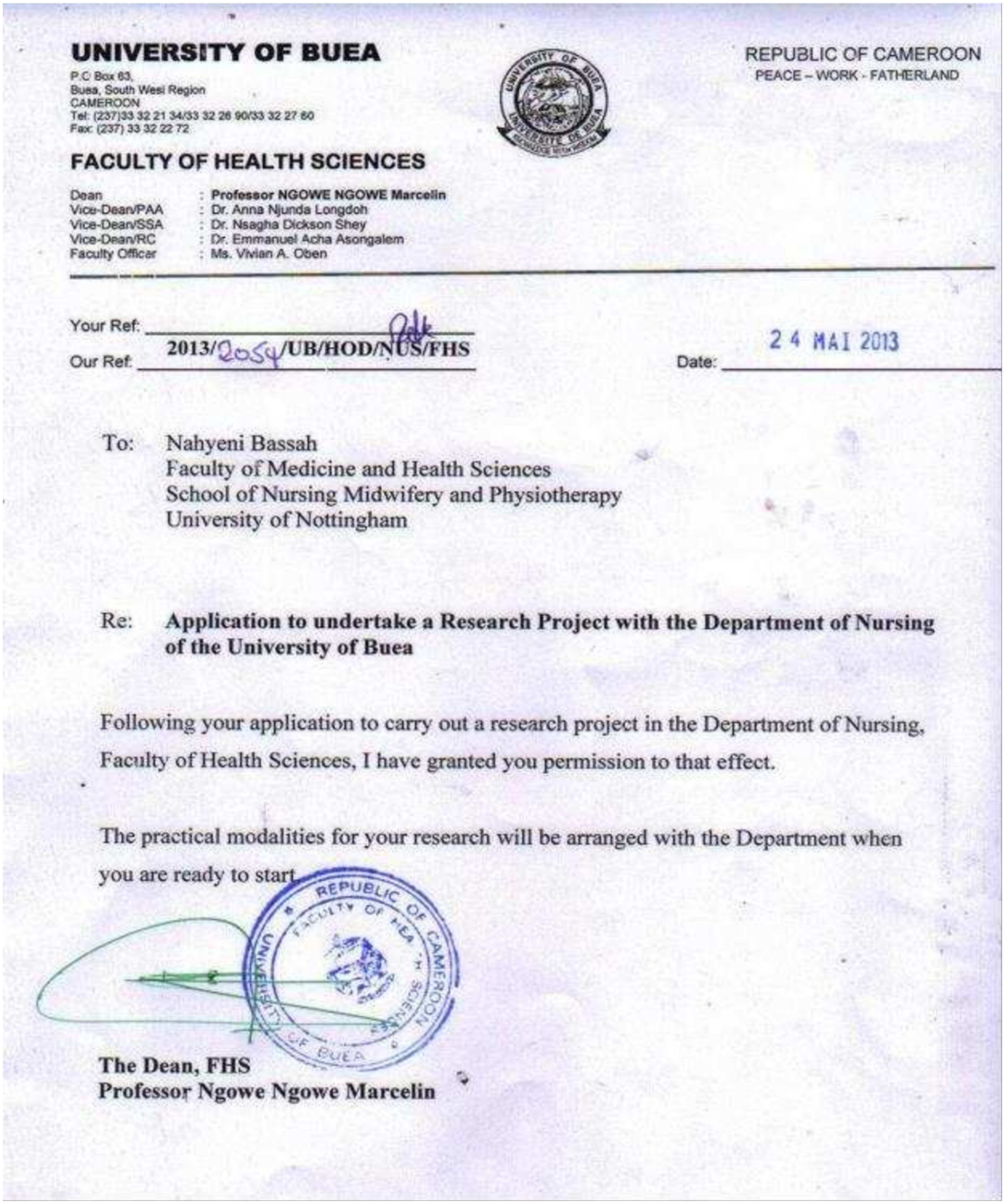
Application number:	2013-08-0173
Principal Investigator:	Nahyeni Bassah
Study Title:	Education that makes a difference to palliative Care in a Resource Constrained Context: The Situation of Cameroon
Application type:	Initial
Sponsor:	Student
Review type:	Expedited
Date of approval:	01st Dec 2013
Expiration date :	01st Dec 2014
Additional comments:	

Principal Investigators' responsibilities:

1. The study must be conducted in strict accordance with the protocol approved by the Board.
2. Changes to the protocol or its related consent documents must be approved by the Board before implementation.
3. Adverse events or unanticipated problems must be reported promptly to the Board.
4. Participants must receive a copy of the consent document, if appropriate.
5. The principal investigator is responsible for the on-going conduct of the study. The study must be implemented according to national and international guidelines for the ethical conduct of research on humans. (S)he must collaborate with the IRB's monitoring of the study's implementation.
6. Any future correspondence must include the application number, and the PI's name in subject line.
7. A renewal application or project closure report must be submitted at least one month prior to the expiration date indicated above. These must be done using the FHSIRB's Form no. 8: Project Update and Closure Form. One hardcopy is to be submitted to FHS IRB secretariat AND an electronic copy sent to fhsirb@gmail.com, making sure to reference the application number indicated above. This form is available at http://www.healthresearchweb.org/en/cameroon/institution_2130

Professor S. Mbua Ngale Efange,
Chair,
FHS IRB

Appendix 3: ADMINISTRATIVE APPROVAL FOR THE STUDY



UNIVERSITY OF BUEA
P.O Box 63,
Buea, South West Region
CAMEROON
Tel: (237)33 32 21 34/33 32 26 90/33 32 27 60
Fax: (237) 33 32 22 72

REPUBLIC OF CAMEROON
PEACE – WORK - FATHERLAND

FACULTY OF HEALTH SCIENCES

Dean : **Professor NGOWE NGOWE Marcelin**
Vice-Dean/PAA : Dr. Anna Njunda Longdoh
Vice-Dean/SSA : Dr. Nsagha Dickson Shey
Vice-Dean/RC : Dr. Emmanuel Acha Asongalem
Faculty Officer : Ms. Vivian A. Oben

Your Ref: ______
Our Ref: **2013/2054/UB/HOD/NUS/FHS**
Date: 24 MAI 2013

To: Nahyeni Bassah
Faculty of Medicine and Health Sciences
School of Nursing Midwifery and Physiotherapy
University of Nottingham

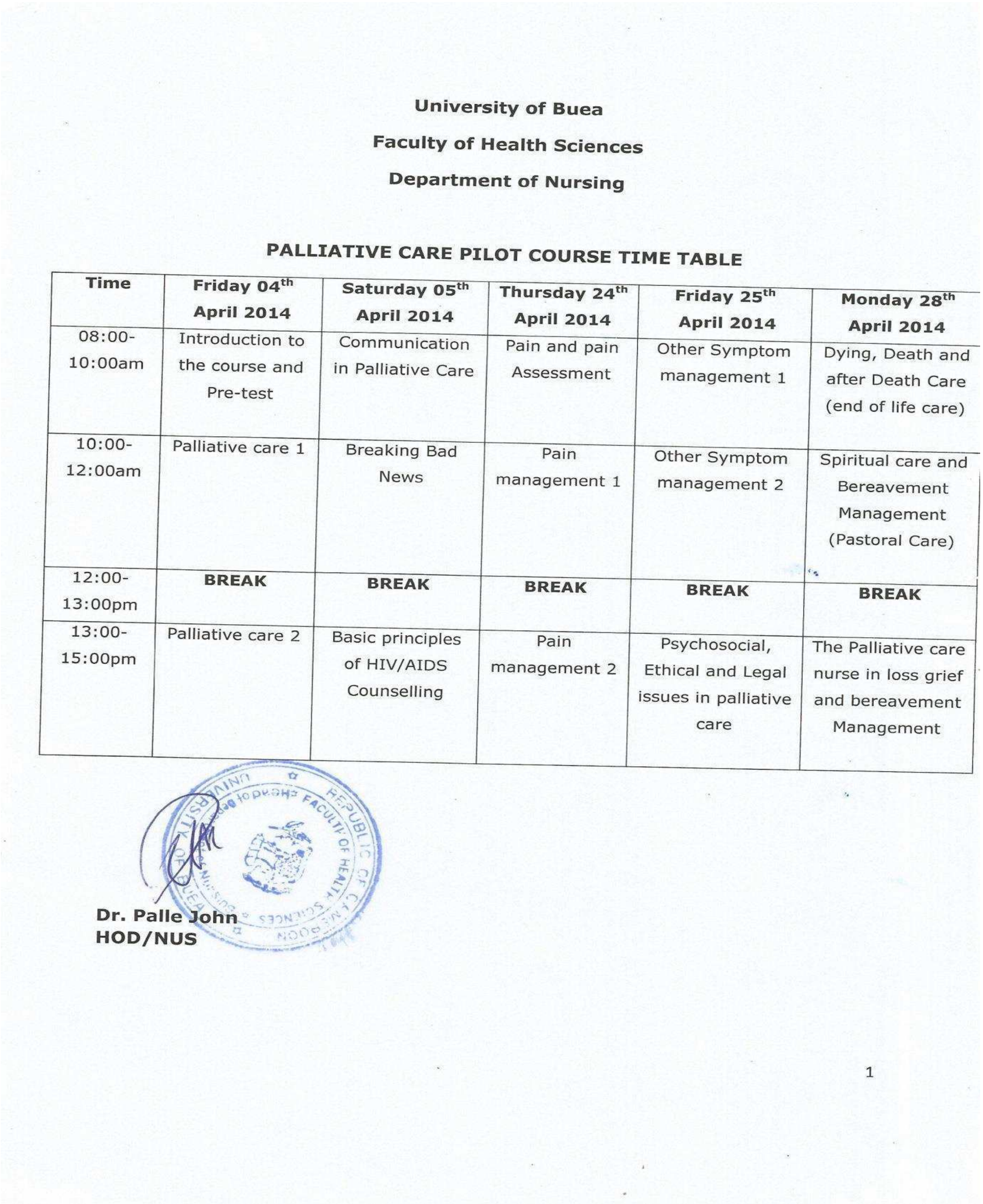
Re: **Application to undertake a Research Project with the Department of Nursing of the University of Buea**

Following your application to carry out a research project in the Department of Nursing, Faculty of Health Sciences, I have granted you permission to that effect.

The practical modalities for your research will be arranged with the Department when you are ready to start.

The Dean, FHS
Professor Ngowe Ngowe Marcelin

Appendix 4: PALLIATIVE CARE COURSE IMPLEMENTATION TIMETABLE



University of Buea
Faculty of Health Sciences
Department of Nursing

PALLIATIVE CARE PILOT COURSE TIME TABLE

Time	**Friday 04th April 2014**	**Saturday 05th April 2014**	**Thursday 24th April 2014**	**Friday 25th April 2014**	**Monday 28th April 2014**
08:00-10:00am	Introduction to the course and Pre-test	Communication in Palliative Care	Pain and pain Assessment	Other Symptom management 1	Dying, Death and after Death Care (end of life care)
10:00-12:00am	Palliative care 1	Breaking Bad News	Pain management 1	Other Symptom management 2	Spiritual care and Bereavement Management (Pastoral Care)
12:00-13:00pm	**BREAK**	**BREAK**	**BREAK**	**BREAK**	**BREAK**
13:00-15:00pm	Palliative care 2	Basic principles of HIV/AIDS Counselling	Pain management 2	Psychosocial, Ethical and Legal issues in palliative care	The Palliative care nurse in loss grief and bereavement Management

Dr. Palle John
HOD/NUS

1

Appendix 5: INFORMATION SHEET

Education that makes a difference to palliative care in a resource constrained context: the situation of Cameroon

Name of Investigator*:* Nahyeni Bassah, PhD student.

Academic Supervisors: Prof Jane Seymour, Prof Karen Cox

Invitation paragraph

You are being invited to be involved in a research study. Before you decide whether to take part, it is important to understand why the research is being done and what it will involve. Please read the following information carefully and feel free to ask Nahyeni if there is anything that is not clear.

What is the Aim of this Study?

This study seeks to develop, implement and evaluate a course to improve the palliative care knowledge and skills of student nurses and enable them feel prepared to care for someone with a life-threatening condition and a dying person.

What does the study involve?

You will be asked to complete a questionnaire that assesses your knowledge of palliative care, and perceived skills and confidence in providing palliative care, before and after participating in the course. You will be invited to participate in 5 classroom teaching sessions on palliative care, at the start of your 2013/2014 second semester. These sessions are likely to be held one day in a week for five consecutive weeks. After your second semester placement, you will be invited to participate in group discussions to talk about your experience of participating in this course and whether or not you had the opportunity to implement your knowledge and skills from this course in practice. Here are some of the topics the training program will cover:

- Philosophy and meaning of palliative care
- Pain and symptom management
- Communicating with a dying person and their families
- Loss, grief and bereavement management

Why have you been chosen?

You have been chosen because you are undertaking a course to qualify and work as a nurse. During your practice as a nurse, you will come across patients with life-threatening illnesses and those who are dying. Therefore you will need adequate knowledge and skills to competently provide care to these persons.

Do you have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What are the possible disadvantages and risks of taking part?

This study will mean a time commitment for you. You will need to put in more time to study new information in addition to your regular university course requirements. We will however ensure that this is manageable together with your regular course workload.

It is also likely that the topics covered during the course may bring back some memories of relatives and friends that you might have loss. It may make some people to think about experiences of getting ill and/or have worries about dying. Part of the purpose of this training is to allow you space to think about these issues in a safe environment. Support will be provided by course facilitators, who are experienced nurses, and the university's health center team.

Will my taking part in this study be kept confidential?

The recordings and notes from any discussions you take part in will be typed onto a password protected computer folder. The names of all the people who have taken part will be removed, so individuals will not be recognised. The questionnaires you fill in at the beginning and end of the course will be coded and your names removed.

What will happen to the results of the research study?

What we learn from this project will be used to refine the course in palliative care, so it can be used in other nursing schools in Cameroon. We will publish papers in academic journals to share with others how we did this study and what outcomes we registered.

Who is organising and funding the research?

The University of Nottingham is funding this study. This is being undertaken as a partial fulfillment for an educational qualification at the University of Nottingham, UK (PhD).

Who has reviewed the study?

This study has been reviewed by the ethics committee of the faculty of medicine and health sciences, University of Nottingham, UK and the institutional review board of the Faculty of Health Sciences, University of Buea, Cameroon.

Contact for Further Information

Nahyeni Bassah
Tel: +23777358661
Email: nahyeni.bassah@nottigham.ac.uk

Appendix 6: HEALTHY VOLUNTEER’S CONSENT FORM

The University of Nottingham

Title of Project: Education that makes a difference to Palliative in a resource constrained context: the situation of Cameroon

Name of Investigators:

Jane Seymour, Sue Ryder Care Professors of Palliative and End of Life Studies

Karen Cox, Sue Ryder Care Professors of Palliative and End of Life Studies

Nahyeni Bassah, PhD Student

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 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.

Name: ……………………………………………………………………………………………

Address: ……………………………………………………………………………………..

Telephone number: ………………………………………………………………………….

Signature: …………………………………………. Date: ……………………………….

I confirm that I have fully explained the purpose of the study and what is involved to:

…………………………………………………………………………………………………….

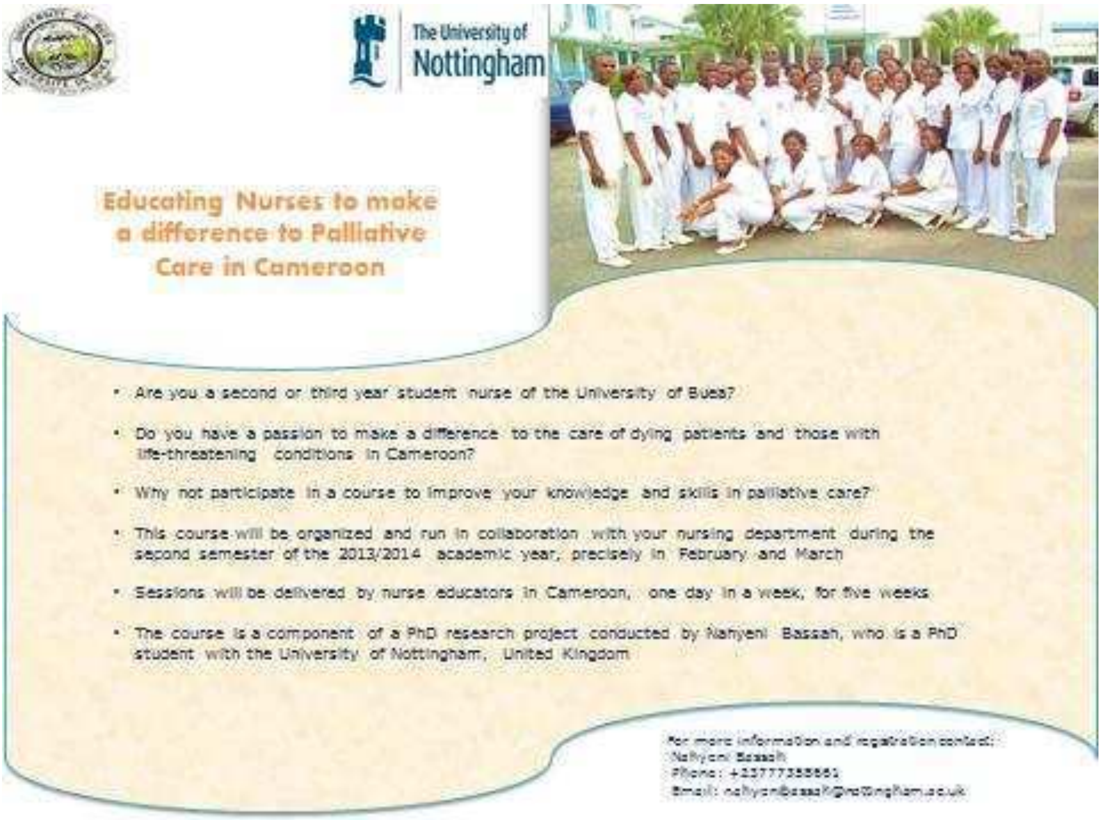
I have given the above named a copy of this form together with the information sheet.

Investigators Signature: ……………………….. Date: ………………………………

Investigators Name:…………………………………………………………………………………………

Study Volunteer Number: ……………………………………………………………………..

Appendix 7: COURSE ADVERTISEMENT FLYER



Educating Nurses to make a difference to Palliative Care in Cameroon

- Are you a second or third year student nurse of the University of Buea?
- Do you have a passion to make a difference to the care of dying patients and those with life-threatening conditions in Cameroon?
- Why not participate in a course to improve your knowledge and skills in palliative care?
- This course will be organized and run in collaboration with your nursing department during the second semester of the 2013/2014 academic year, precisely in February and March
- Sessions will be delivered by nurse educators in Cameroon, one day in a week, for five weeks
- The course is a component of a PhD research project conducted by Nahyeni Bassah, who is a PhD student with the University of Nottingham, United Kingdom

For more information and registration contact:
Nahyeni Bassah
Phone: +23777358861
Email: nahyeni.bassah@nottingham.ac.uk

Appendix 8: FOCUS GROUP GUIDE AND INDIVIDUAL CRITICAL INCIDENT INTERVIEW GUIDE

A. Focus Group Discussion Guide

Introduction

- Welcome all participants and thank them for attending
- Explain the purpose of the interviews
- Discuss and agree on housekeeping rules
- Seek consent to tape record the discussions
- Clarify participants' questions

Discussion Questions

1. Before participating in this course what did you know about palliative care?
2. What where your expectations when you registered for the course?
3. How did your experience of this course compare with your expectations?
4. Is there anything else you would have loved to learn from this course?
5. How did your participation in this course benefit you?
6. How did you use your learning from this course in practice during placement?
7. What do you think have been influential in enhancing your learning in this course? How?
8. What did not quite work well during the course?
9. How do you think your experience of this course could be improved?

Conclusion

- Thank participants for attending
- Provide participants with transport money from campus to home

B. Critical Incident Individual Interview Guide

1. Can you describe the events or circumstances that led to this incident?
2. Can you describe the role you played in this incident?
3. Can you describe others who were involved in the incident and the role they played?
4. What was the patient outcome?
5. What do you think facilitated the care you provided in this incident?

6. What barrier (s) prevented you from providing palliative care in this incident?
7. What did you find most challenging in providing care to patients who require palliative care.

Appendix 9: CATEGORISATION OF CRITICAL INCIDENTS INTO RELEVANT CHARACTERISTICS

Critical Incident Number	CI 1 (Student interview 1)
Experience (personal or other party)	Personal
Descriptive account of incident site	Female medical ward
Descriptive account of patient and/or family	A female patient in her forties with advanced stage HIV/AIDS, presenting with ascites and muscle wasting. Had previously been on ARV, but stopped it
Summary of what led to the Incident	Although just passing around, the student nurse stopped to talk with her because he saw her lying helpless on the bed and without a family caregiver. Her look (confused, depressed, and frustrated, as though the world was coming to an end), made student nurse to become empathic.
Summary of incident and what student nurse could do	Identified the need for and communicated with the patient. Also identified and provided spiritual care
Critical Behaviors (student)	Stopping to talk to a patient lying in a bed, emaciated and looking helpless and without a family caregiver Feeling empathic because of patient's condition Avoiding talking about death and HIV/IADS status of the patient Behaving as though not aware that patient is HIV positive and experiencing end of life
Critical Behaviors (Others)	Providing routine care Encouraging patient to resume taking her ARV, and to go back to the previous centre to collect her ARV Offering to discharge patient but not offering any palliative/home care measures
Outcome (Positive or Negative)	Positive
Summary of Outcome	Lady really happy when approached and also happy that somebody had concern for her. This expressed by patient saying thank you to the student nurse
Facilitators	A picture in which the patient was still looking strong and healthy and with one of her family member, was a starting point from which to initiate discussion. A hospital owned bible which is often placed at the bedside of patients was also used to initiate communication. The palliative care course
Barriers	Lack of competence and confidence (Uncertainty about how patient will feel/react if talk about dying is initiated, and the notion that patients don't want to hear about death, they want reassurance) Practicing nurses' knowledge and attitudes towards death and care of the dying Financial status of the patient
Challenges	The physical condition of the patient