SCHOOL OF PHARMACY

Self-care in Pregnancy and Breastfeeding:

Views of women and community pharmacists in Thailand

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Thesis submitted to the University of Nottingham for the degree of Doctor of Philosophy

October 2010

ABSTRACT

During pregnancy and breastfeeding, women are concerned about the health and safety of themselves and their baby. They undertake many activities in order to maintain good health, manage minor ailments and improve their lifestyle, including seeking help and advice from pharmacies. Community pharmacists have an important role in selecting appropriate medicines and encouraging good health behaviours. The Thai population can purchase medicines from pharmacies without a prescription, and self-treatment or self-medication is commonly used and important to the health status of Thai people. In addition, culture, family and relatives have an influence on health behaviours in Thailand.

There have been very few previous studies about self-care behaviours including self-medication in Thailand focused on healthy women during pregnancy and breastfeeding, and the views of community pharmacists in self-medication and self-care during pregnancy and breastfeeding. In addition, the modern lifestyle and accessible health information might be affected by the current attitudes and behaviours of women during pregnancy and breastfeeding. Therefore, an investigation of self-care behaviours in pregnant and breastfeeding women was needed to explore their recent behaviours in terms of maintaining health and well-being as well as managing minor ailments. Views and experiences of community pharmacists about self-care in pregnancy and breastfeeding were also explored. This study contributes to the understanding of self-care behaviours and indicates the actual situation in community pharmacies regarding self-care and self-medication in pregnancy and breastfeeding.

Two in-depth interviews in the Thai language were held with 43 women in Chiangmai about their self-care experiences and behaviours during pregnancy (>34-weeks gestation) and 35 out of the 43 women in the breastfeeding period (>four weeks following birth). Audio-taped interviews

were transcribed, translated and analysed by using interpretative analysis. In addition, a postal questionnaire survey was used to collect data from 198 full-time community pharmacists in Chiangmai province. The first mailing was sent in April 2006 and a reminder was posted in June 2006. The completed questionnaires were returned from 110 pharmacists and the response rate was 56%.

The majority of pregnant women tended to change their habits and adopt activities that they thought could make them and their babies healthy. They tried to consult their doctor rather than self-medicating. The traditional beliefs still had a very strong influence on most women interviewed during both pregnancy and postnatal period. The majority of pharmacists strongly agreed that self-care is important for both pregnant and breastfeeding women and they believed they provided good support for these women. Some pharmacists, however, still lacked the confidence to provide appropriate advice for these women and appeared to need more support with up-to-date information. Regarding the implications of this study, some self-care activities are harmful to women and their babies, so their dangers should be widely advertised in appropriate places. Furthermore, health professionals should consider a balance between safe traditional beliefs and modern health systems to ensure the best self-care practices for both women and their babies. In addition, continuing education and up-to-date information will help to increase the pharmacists' confidence in providing appropriate advice to pregnant and breastfeeding women.

ACKNOWLEDGEMENTS

I wish to express my sincere appreciation and thanks to my two academic supervisors, Professor Claire Anderson and Professor Diane Fraser, for helping, supporting and providing guidance throughout my study and during the writing up stage.

I would like to extend my thanks to all participants, 110 community pharmacists and the 43 women, who took part in this study. The community pharmacists spared much of their time to fill-in my questionnaires, and the women shared their experiences with me and allowed me to visit them in their homes. In addition, I am extremely grateful to the Faculty of Pharmacy, Chiangmai University for giving me permission to study in the United Kingdom and The Royal Thai Government for a scholarship. Without their support, this thesis would have been impossible to complete. Furthermore, I would like to thank the University of Nottingham for their financial support which enabled me to collect all of my data in Chiangmai, Thailand.

I would like to thank all of my fantastic friends at the University of Nottingham for their love, encouragement, friendship, and support throughout the course of my study especially my Thai friends who helped in my translation and writing processes. Additionally, special thanks go to Ms. Ann Wright and Ms. Danielle Bucknall who proof read my thesis.

Finally but most importantly, I would like to thank my family for their love, encouragement and support throughout my life during my study. My greatest respect and thanks go to my parents, Mr. Somchai and Mrs. Kannika Leelanitkul, and my parents-in-law Dr. Sombut and Mrs. Wilai Boonyaprapa. Most of all, my appreciation goes to my lovely husband, Dr. Sakol Boonyaprapa and two fantastic sons, Naphat and Naphong Boonyaprapa. They are my most treasured gifts in life.

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CHAPTER 1
INTRODUCTION

This chapter represents the outline of the study including the background and aims of the study. The structure of the thesis is also presented at the end of this chapter.

1.1. Background of the study

Self-care is an old concept and has been broadly defined as the individual's behaviour to manage activities for maintaining life, health and well-being (Cavanagh, 1991). Nowadays, it is the concern of not only lay people but also health professionals as a result of self-medication promotion, illness prevention, and the encouragement to use primary care services (Charupatanapong, Chairojkanjana, & Tanapaisalkit, 1996; The Proprietary Association of Great Britain, 2005). Each person's self-care ability depends on their social, psychological and physical environment. People can make daily choices about their lifestyle and the risks that they take, such as their work, hobbies and other aspects of everyday lives including health care. Information and communication from relatives, family, and health professionals are important for people to choose an appropriate option for themselves (Chambers, 2006; Furlong, 1995).

Focusing on the patient's perspective (Chambers, First, & Critchlow, 2006), self-care is mainly concerned with practical behaviours such as taking medication, exercising, and gaining information about promoting health and treatments. At the moment, as well as consulting health professionals, such as pharmacists, and purchasing medicines, patients use self-care in many ways. They manage their treatment for their minor ailments by using complementary methods. They also manage emotional and psychological issues by positive thinking. They try to change and improve their positive lifestyle such as increasing the amount of exercise

they do, stopping smoking, reducing alcohol intake, and by maintaining a more healthy diet. Finally, they seek knowledge about their diseases or ailments from many sources of information such as family and friends, books and magazines and the internet (Chambers, First *et al.*, 2006).

The concepts of health, illness and care are integral parts of cultural values, traditional beliefs and practices. Cultural values including attitudes and beliefs influenced on the lifestyles and health behaviours of individuals. Culture can give people a sense of identity and define the rules of behaviour (Cortis, 2003). Globalisation affects human culture and the involvement of technology in daily life is rapidly increasing. Cultural and traditional beliefs, however, are still common and change quite slowly. Today, many traditional beliefs and practices influence many parts of life from birth to death (Cortis, 2003).

Pregnancy and the postpartum period are special times in the lives of women and babies. Healthy mothers are the foundations of healthy people in the future, as it is known that the health of women during pregnancy and breastfeeding directly affect their baby's health (Pasinlioglu, 2004). Therefore, the quality of maternal care is important in preventing deaths and morbidity of the newborn. Women generally change their health behaviours when they are pregnant (Higgins, Clough, Frank, & Wallerstedt, 1995). During pregnancy and breastfeeding, women are mainly concerned about safety strategies and undertake many activities to manage minor ailments and improve their lifestyle to maintain good health (Schrempp, Ryan-Haddad, & Galt, 2001). These behaviours are related to self-care.

"Make Every Mother and Child Count" was the slogan of the Maternal and Child Health theme on World Health Day 2005 which was distributed to 11 Member States of the World Health Organization (WHO) South-East Asia Region. The highlights of this event were: safety during pregnancy and childbearing and supporting newborn babies' health and well-being and ensuring a good healthy life for all children in the region. The goals were

not only directed to improve maternal and child health, but also included nutrition, contagious diseases, using essential drugs and improved hygiene for mothers and their babies (World Health Organization, 2005b).

1.1.1 Thailand

Thailand is a developing country in the WHO South-East Asia Region. The Ministry of Public Health in Thailand continues to implement WHO and The United Nations Children's Fund (UNICEF) programmes for maternal and child health to reduce the mortality rate, to prevent health problems, and also improve screening for disease (World Health Organization, 2004). If women during pregnancy can take good care of their health, it can reduce the death of newborn babies and will also increase their birth weight to over 2,500 grams. The target of the Ninth health development plan (2002-2006) announced that the number of newborns weighing less than 2,500 grams must reduce to less than 7 percent of live births. The data from the Ministry of Public Health in 2006 , however, found 11 percent of newborns weighed less than 2,500 grams (Institute for Population and Social Research, 2008). In addition, the Thai maternal mortality ratio (MMR) which is reported by UNICEF 1990-2004 is 24 per 100,000 live births (UNICEF, 2005c). This number has declined from 36 per 100,000 live births in 1990 but it is still higher than in neighbouring countries such as Japan and Singapore (8 and 6 per 100,000 live births respectively) (UNICEF, 2005a, 2005b). The risks to the life of women during pregnancy depend on the "three delays factors": delays in accessing medical care, delays in obtaining a medical facility, and delays in receiving quality care (Rai & Dali, 2005). The reasons for these delays are not only medical but also include socio-cultural aspects such as education, occupation, income, and the traditional and cultural beliefs of individual women.

Breastfeeding is an important factor in reducing the mortality of children under five years of age (World Health Organization, 2009). Breast milk confers a direct advantage to the baby by increasing the immunity,

decreasing allergies, and improving the nutrients that help brain development. Furthermore, an indirect advantage of breastfeeding includes improving mother-baby bonding (Institute for Population and Social Research, 2008). During 2005-2006, a Thai children survey reported that the number of children who were exclusively breastfed in 0-3 months was only 7.6% and by 5 months it had declined to 5.4%. Babies living in the city were breastfed less than rural babies and babies from the northern region were breastfed more than those from other regions (Institute for Population and Social Research, 2008).

The Chiangmai province is the largest and most culturally influenced city in the northern region of Thailand. The population in this province is made up of a mixture of different social classes. The social and economic climate for this area has changed rapidly from an agricultural sector to a non-agricultural sector over three decades. The role of women in the family usually requires them to work outside the house (Yimyam & Morrow, 1999). When women are pregnant, cultural knowledge or traditional knowledge is still held and practised. In the Thai culture, family and relatives especially the mother and mother-in-law, have an important role in influencing a woman's behaviour during pregnancy and breastfeeding. In addition, the health system in Thailand supports people in looking after themselves by giving them the right to decide which option is suitable to treat their sickness. The Thai health care system consists of government hospitals, private hospitals, health centres, clinics, and voluntary organizations. In the past, Thai women gave birth at home with the aid of a non-professional midwife called "Mortumyae". Nowadays, most women prefer the service from a hospital because they are concerned about the safety of themselves and their babies. Pregnant women have the freedom to select the hospital for both antenatal clinic and giving birth. There are several factors which may influence their decision including health insurance, and information from friends, family or experienced people. Thai midwives usually work under the order of an obstetrician and take full responsibility to deliver the baby in a normal birth. In high risk women, the

obstetrician undertakes the care and delivery (Chunuan, Kala, & Kochapakdee, 2004).

1.1.2 Self-medication

Self-medication is an aspect of self-care around the use of medicines for treatment of minor illnesses (Coons, 1990). It is a very normal practice in many countries especially developing countries. Self-medication or self-treatment is very popular and important to the health status of Thai people. In Thai drugstores, community pharmacists can sell over-the-counter and prescription drugs without a physician's order except for some controlled drugs. Moreover, the pharmacist's role as prescriber and dispenser is accepted by customers especially in the rural areas. Community pharmacists are on duty in most drugstores in Thailand. They should have the necessary knowledge to advise on safe and appropriate medicines and encourage practices for good health and well-being (International Pharmaceutical & Federation, 1996). Pharmacists can promote self-care among their customers by encouraging them to "PART" (Chambers, Wakley, & Blenkinsopp, 2006)

P: Prevent the condition developing
A: Await resolution of the symptoms
R: Relieve symptoms by using self-care skills
T: Tolerate symptoms that do not resolve

1.1.3 Studies on self care behaviours in Thailand

There are very few studies about self-care behaviours in Thailand, especially in pregnant and breastfeeding women. There has only been limited research that investigated some activities during pregnancy and the postpartum period such as the consumption of food and drink, exercise and the traditional practices. No articles investigated self-care behaviours including self-medication in the maternity periods.

Kaewsarn, Moyle and Creedy (2003b) studied the practices of mothers after giving birth in Ubon Ratchathani province, in Eastern Thailand, using self-completion questionnaires. Liamputtong (2004) focused on traditional postpartum beliefs and practices in Chiangmai city and Mae On sub-district using indepth interviews with thirty women who had experienced pregnancy and given birth. Liamputtong *et al.* (2005) tried to understand and to explain traditional beliefs in pregnancy and postpartum period including precautions taken during pregnancy and birth using indepth interviews with women in Chiangmai, Thailand. These studies found that the traditional beliefs in pregnancy and the postpartum period still appeared in modern society, but some practices had been diminishing.

Moreover, there is a lack of research studies about community pharmacists' views on self-care services for pregnant and breastfeeding women especially in Thailand. Only a few international studies have been published about pharmacists' opinions and practices in counselling pregnant and breastfeeding women. For example, a Nebraska study aimed to understand the role of community pharmacists in counselling pregnant and breastfeeding women and to evaluate the level of their comfort with advising these women (Schrempp, Ryan-Haddad & Galt, 2001). A French study identified the recommendation of community pharmacists in terms of supply of appropriate medication and providing valid information to pregnant women (Damase-Michel, Vié, Lacroix, Lapeyre-Mestre, & Montastruc, 2004). Their findings show that community pharmacists did not always provide appropriate information and sometimes suggested unsuitable over-the-counter medicines to pregnant or breastfeeding women. French pharmacists complained that they had less confidence in counselling pregnant and breastfeeding women because the information which they used for advising specific patients especially pregnant or breastfeeding women was not always reliable and up-to-date. They suggested that they still required educational programmes to improve their knowledge about medication in pregnancy and lactation and that the appropriate information

must be developed. These results provided basic information to identify and understand the community pharmacists' roles in practice in France.

In normal practice, Thai people can buy many types of medicines without a physician's order from a pharmacy such as antibiotics, antihypertensives, and oral contraceptives. Thai people mostly plan to go to hospital or visit a physician when they cannot treat an illness themselves. Therefore, self-care in Thailand is commonly used and very important to the health status of lay people. (Charupatanapong *et al.*, 1996). It is clear that community pharmacists have an important role in advising women about self-care behaviour and in particular self-care behaviours when pregnant and breastfeeding. It will be of value, therefore, to pharmacists and providers of maternity services in Thailand to have evidence as to the self-care behaviours of pregnant and breastfeeding women and how they seek to promote their health and treat any symptoms of discomfort or illness during this period. As seeking advice and medication from pharmacists is likely to be an important aspect of self-care, the views and practices of community pharmacists about self-care activities in pregnancy and when women are breastfeeding are essential. The reason it is essential is because inappropriate advice and medication for self-care could have an adverse effect on the health and well-being of women who are pregnant and lactating, the fetus and the newborn. Moreover, traditional beliefs of Northern Thai cultures are still strong in pregnant women and during the postpartum period. Pharmacists need to consider carefully the dissonance between health education messages and a patient's beliefs when giving advice. It is important that the information about traditional practices and beliefs in both periods is revealed to prevent conflict between cultural beliefs and modern medical knowledge.

1.2. Aims and Objectives

The aim of the study was to explore self-care activities of pregnant and breastfeeding women in the Thai context and the knowledge and experience of community pharmacists who are advising these women in Chiangmai province, Thailand. The experiences of women and pharmacists were explored and described from their own perspective without applying any existing concept of self-care that may limit the understanding of the reality.

The specific objectives of the project were:

1. To investigate self-care activities to improve and maintain health and well-being during pregnancy and breastfeeding.
2. To determine management of minor symptoms experienced by pregnant and breastfeeding women.
3. To identify the knowledge and views of community pharmacists about self-care activities in pregnancy and breastfeeding.

The design of the study was a mixed methods approach using qualitative and quantitative data collection tools. The outcome of this study will contribute to the understanding of culture-based self-care activities during pregnancy and breastfeeding and indicate the image of community pharmacists want to portray about advice regarding self-care activities for pregnant and breastfeeding women. If health professionals understand and are aware of women's cultural beliefs and practices including careful consideration of their care requirements, they can make and promote suitable strategies for the positive health of mother and baby in the future. As a result, it is hoped that health organizations may use findings from this study to develop suitable campaigns to promote maternal health, aiming to support health and well-being, and to reduce maternal and child morbidity and mortality rates in Thailand. Moreover, this study set out to find out the current situation in 2006 about advice and services in community pharmacy

regarding self-care activities in pregnancy and breastfeeding. It also provides basic information to identify and understand the community pharmacists' roles in practice. This will be of value for preparing information, establishing suitable programmes and providing support to Thai community pharmacists in the future.

1.3. Structure of the thesis

This thesis is divided into eight chapters. The first chapter has described the background of the study about self-care activities during pregnancy and breastfeeding in Thailand including the aim and structure of the thesis.

Chapter Two introduces self-care. It includes definitions, concepts and focuses on self-care during pregnancy and breastfeeding in general. It also describes the traditional beliefs in pregnancy and the postpartum period in Thailand.

Chapter Three presents details of the health system in Thailand including the policy about maternal health during pregnancy and breastfeeding period. The details of Thai traditional beliefs in pregnancy and the postpartum period are also indicated. Moreover, the roles of the community pharmacists in Thailand are introduced, and the categories of medicine in Thailand are presented to enable the reader to understand the current situation in the Thai community pharmacy.

Chapter Four presents the research design for both the qualitative and quantitative methods. It describes the sampling process, data collection, ethical considerations, and data analysis.

Chapters Five and Six report the findings of the study from the qualitative research methods. These describe the details of participants and their views about self-care activities during pregnancy (Chapter Five) and breastfeeding (Chapter Six). In both chapters, many verbatim quotes are presented and discussions in each topic are included.

Chapter Seven shows the quantitative results of the data collected from community pharmacists in Chiangmai, Thailand.

Chapter Eight provides the discussions and conclusions of this study. It includes the limitations of this study, implications of practices, and recommendations for future study.

CHAPTER 2

SELF-CARE BEHAVIOURS

This study concentrates mainly on investigating self-care behaviour to improve and maintain health and well-being during pregnancy and breastfeeding including examining the management of minor symptoms. This chapter gives an overview of self-care, self-care theory, self-care in pregnancy and breastfeeding, traditional beliefs about pregnancy and breastfeeding, and the role of community pharmacists in supporting self-care.

2.1. Overview of Self-care

Self-care is defined by several authors, including the WHO, as a broad concept. Self-care is the individual behaviour to manage activities for maintaining life, health, and well-being. “Self” was viewed as the individual taking responsibility for the totality of their health including physical, psychological, and spiritual needs and “Care” as the individual behaviour to maintain life and to develop in a normal way (Cavanagh, 1991).

Self-care is an old concept and describes the actions of mature people who have developed the ability to look after themselves in their situations. These action capabilities include acquiring suitable knowledge, decision making and taking action for changes (Orem, 1995). People in the past have had to look after their own health. When a growth of healthcare systems occurred, people started to recognize healthcare professions and took less responsibility for their own health management. As a result, general practitioners (GPs) perceived consultations for many minor ailments which can be dealt with satisfactorily by taking over-the-counter medicines. The primary care systems, such as self-medication and self-care, were introduced and promoted to the public for reducing GPs’ workload

(Bojke, Gravelle, Hassell, & Whittington, 2004; Hassell, Noyce, Rogers, Harris, & Wilkinson, 1997).

Nowadays, both professionals and lay people are increasingly interested in self-care behaviour. This is probably because of the promotion of over-the-counter medicines, the encouragement to use primary care services (The Proprietary Association of Great Britain, 2005) and the ease of access to a wealth of health information via the internet. Moreover, self-care includes concepts of traditional health education in health promotion, health maintenance, and illness prevention (Charupatanapong *et al.*, 1996; Linn & Lewis, 1979).

Self-medication is a part of self-care behaviours and widely practised in both developed and developing countries. Self-medication in developed countries is mostly considered for minor ailments by using over-the-counter or non-prescription medicines which are available in pharmacies and grocery outlets (The World Self-Medication Industry [WSMI], 2006). For example, eighty-seven percent of the British public accepted that they often use self-treatment by taking over-the-counter medicines for minor ailments (Department of Health, 2005). On the other hand, people in most developing countries are able to take a more active role in self-care for their health problems, especially in medicines selection. They can decide to treat themselves with medicines for both minor and major ailments as the majority of medicines can be sold from pharmacies without a prescription. For instance, antibiotics are one in three of the most used medicines by Thai consumers for self-medication (Charupatanapong & Rascati, 1992). In perspective of the patient, physician and pharmacist, they agreed that self-medication with non-prescription medicines can have major benefits in the treatment strategy and should continue to be promoted to the public (Hughes, McElnay, & Fleming, 2001). In addition, patients needed to use these medicines and self-care choices in safe and appropriate ways, so community pharmacists who have been recognized as a ‘first port of call’ for advice on minor illness have had to extend their roles to support self-

care and self-medication (Hassell *et al.*, 1997; Hassell, Rogers, & Noyce, 2000).

Self-care of an individual is considered to be managed in five areas (Cavanagh, 1991). Firstly, the life processes and normal functioning in each person are supported. People have to understand and find out what is normal for their life. Secondly, normal growth, maturation and development should be maintained. Thirdly, the progression of disease and injuries must be prevented or controlled. Fourthly, disability must be prevented or learned to be accommodated. The final concern is with well-being promotion. In addition, the WHO (1994) found factors affecting the increase of self-care activities as follows:

1.) Socioeconomic factors: People are empowered by raising their level of education and by increasing access to information. They try to understand health in detail, so they can make the right decisions about their health along with a health professional.

2.) Lifestyle factors: The awareness of good health had increased, so people tended to choose good behaviours, such as smoking cessation, eating a healthy diet and doing appropriate levels of physical activity, to maintain health and prevent diseases.

3.) Accessibility to health services: People prefer rapid health services. They try to find private health services which are available with short waiting times. They have freedom to choose and to access the suitable health services by themselves.

4.) The potential to manage health and illnesses: people have the right to select over-the-counter medicines or traditional medicines to treat their minor illness instead of seeing the doctor. In addition, self-medication or no medication is recognized as appropriate to control some conditions or diseases. At the moment, people are involved in treatment decisions along with a health professional more than in the past. They have to understand the process of treatment and to decide to accept or reject the recommended

treatment by using their experiences, knowledge and traditional or cultural beliefs.

5.) Public health and environment factors: people are encouraged to maintain health and prevent illness by using good hygiene, eating suitable nutrition and drinking safe water by a health promotion policy. They can easily access health information provided by a health organization, so they can decide the appropriate way for self-treatment.

6.) Demographic factors and health reforms: The growth of an ageing population and growth in numbers of people with chronic disease and disabilities are the causes of changes in health policy and healthcare reforms in many countries. At the same time, the promotion of self-medication is broadly implemented for reducing the healthcare burden on the public funds. Moreover, increasing numbers of safe and effective medicines are being launched into the non-prescription or self-medication markets, so people's own responsibility for their health has increased in proportion to individual capacity for self-care practices.

2.2. Self-care Theory

Over 25 years, the understanding of self-care gradually developed. Campaigns about changing lifestyles were promoted during the early 1980s. Self-care activities were included as a part of them. Many countries started to promote healthy behaviours for their people, and to teach how to reduce the risks of daily living (Wertheimer & Serradell, 2008).

The concept of self-care was first introduced by Mechanic in the 1960s. He wrote about illness behaviours by explaining the processes for response to symptoms (Mechanic, 1960). He reported that people perceive, evaluate, and respond to symptoms in ways that reflect sociocultural patterns and the stresses and strains in their own lives.

During the past decade, several authors tried to find the definition of self-care in different ways. Dorothea Orem's self-care theory (Orem, 1995) was

the most frequently mentioned theory in nursing. This theory focused on the assumption that people have the right, the ability and responsibility for their own health. Orem suggested three interrelated theories of self-care: theory of self-care, theory of nursing system, and theory of self-care deficit. At the centre of these three theories is the concept that people can care for themselves to maintain life, health and well-being.

1.) Theory of self-care (Orem, 1995)

Self-care in this theory is divided into two ideas: self-care as learned behaviour and self-care as deliberate action. Self-care behaviour can be learned from interaction and communication in social groups. Self-care actions also depend on culture and experiences. Deliberate action in self-care means self-care is not instinctive or reflexive, but it responds to demands. Self-care is therefore more likely to be performed as people mature. If self-care is learned and performed in response to demands in healthcare, it assumes that people have time to learn about the essential action and they have the capability to do it at the same time.

2.) Theory of nursing systems (Orem, 1995)

The goal of the nursing systems is to increase the patient's capabilities to meet a demand or requisite. Nursing systems are helping systems set by nurses who have abilities to meet the self-care demands of patients. The process involves the nurse determining an existing or potential deficit relationship between the abilities and needs in situations including individual health.

3.) Theory of self-care deficit (Hartweg, 1991)

This theory describes the way that people are not allowed to achieve their healthcare demands because of health-related limitations. The limitations may occur as the result of health conditions or individual factors (internal or external). Self-care deficits are identified as complete or partial. Self-care deficit is when people have no capability to achieve a therapeutic self-

care need. If people have limited ability to perform actions in meeting the therapeutic self-care needs, this is called partial self-care deficits.

Orem indicated that human beings need three types of self-care: Universal, Developmental and Health-deviation (Orem, 1995; Woods, 1989). Universal self-care requisites are normal in all stages of a human being. They focus on demands for maintenance well-being such as sufficient intake of air, water and food; a balance between activity and rest; and safety and well-being. Developmental self-care requisites are related to developmental processes of humans at different stages of the life cycle (infancy, childhood, adulthood), and related situation (pregnancy, death of a family member). Health-deviation self-care requisites occur from diseases and measures used in their diagnosis and treatment. These requisites require the knowledge of medical science.

In health education, the lay person was the first target of self-care campaigns about health promotion, health prevention, and treatment (Levin, Katz, & Holst, 1979). Levin *et al.* (1979) cited that the decision-making process of people in their own care can be considered as a self-care. It involves self-observation, perception of symptoms, severity judgement, and treatment options assessment. This decision should be made by oneself, family, or health professional experts. Dean (1989) defined that "self-care is a behaviour undertaken by an individual to promote or restore their health". Under this definition, the concept of self-care can cover a whole range of activities from well-being to sickness. Self-care can also contribute to all care aspects: self-treatment, health protection, health restoration and health promotion.

Some authors, however, tried to consider self-care behaviours using a holistic approach. Steiger and Lipson (1985) stated that the self-care concept should merge three aspects: a medical approach, a holistic and environmental approach, and a cultural diversity approach. Additionally, the health models such as the health belief model and model of illness were

included in their definition of self-care. They mentioned that self-care activities including personal or environmental hygiene, nutrition, preventive practices and medications and treatment in both folk and modern medicines. Similarly, the Proprietary Association of Great Britain (2005) described that self-care is a long term habit which depends on cultural background, and traditional health concepts in conjunction with health-based knowledge. Moreover, self-care activities are influenced by the beliefs, habits and practices within a family or community.

Healthy people are an important goal for the health policy in every country. To reach this goal, the initial focus should be on healthy mothers because it has been suggested that they are the foundation for healthy people in the future (Pasinlioglu, 2004). Additionally, pregnancy and the postpartum period are special times in the women's lives. Therefore, women in these periods are mainly concerned about adopting behaviours which can improve and maintain their health (Higgins *et al.*, 1995).

2.3. Literature reviews about self-care in pregnancy and breastfeeding

A literature search was carried out from December 2004 to July 2010. The search strategy involved using electronic databases, hand-searched and retrieved papers' references. Relevant websites were also examined such as The Proprietary Association of Great Britain (www.pagb.co.uk), World Health Organization: regional office for South-East Asia (www.whosea.org), Department of Health in United Kingdom (www.dh.gov.uk), and Ministry of Public Health in Thailand (www.moph.go.th).

Major electronic databases were searched using the e-library gateway available through the University of Nottingham library system. The databases included MEDLINE from 1996, EMBASE from 1980, CINAHL: Cumulative Index to Nursing & Allied Health Literature from 1982,

ASSIA: Applied Social Sciences Index and Abstracts (CSA) from 1995, AMED: Allied and Complementary Medicine, IBSS: International Bibliography of the Social Sciences from 1951, IPA: International Pharmaceutical Abstracts from 1970, PsycINFO, and PubMed. Hand-searched technique was implemented for finding articles in the journals: Medical Care, Holistic Nursing Practices, and American Journal of Nursing.

The key words which were used in electronic searching included “pregnancy”, “mother”, “maternal behaviour”, “parenthood”, “women health”, “maternal and child”, “pharmacist”, “childbearing”, “prenatal”, “antenatal”, “postnatal”, “community pharmacist”, “health professional”, “cultural belief”, “traditional belief”, “traditional medicine”, “health behaviour”, “self-care”, “self-treatment”, “self-medication” and equivalent terms in thesauruses. The combinations of main keywords were entered for specific literature.

Literature was selected by using the following criteria:

- information related to pregnancy and breastfeeding
- papers focusing on self-treatment and self-prevention or health behaviours during pregnancy and breastfeeding
- information about pharmacists and medicines related to self-care, self-medication, and medicines for pregnant and breastfeeding women

Additionally ‘gray’ literature was included, for example articles reported in news, magazines and some internet sites which by their very nature are not peer reviewed or rigorous in their scientific approaches. Nevertheless, these sources were used by lay people more than healthcare professionals, so some related information from them has been mentioned along side the results in this study.

2.3.1 Self-care in pregnant women

The health of pregnant women can have an effect on the baby's health. Therefore, the services for mothers and children are considered to be one of the most important aspects of primary care services. In addition most health problems in mothers and children are preventable (Chacko, Rob, & Nigel, 2009; Pasinlioglu, 2004). Health prevention and health education are promoted by government authorities to solve health problems and to improve lifestyles for the maintenance of good health. An important way to promote health is to improve an individual's self-care agency (Pasinlioglu, 2004). The term 'self-care agency' means a person's ability to undertake self-care actions for preserving health and well-being. It includes motivation, decision making, knowledge and physical activity (Lee & Grubbs, 1993). The highest score for self-care agency was shown in pregnant women who were of high socio-economic status, in their first pregnancy and who desired this pregnancy (Pasinlioglu, 2004).

Women during pregnancy and breastfeeding are the self-care agent both for themselves and for their baby. They are mainly concerned about safety strategies through pregnancy and childbirth. They carry out many actions such as finding care, consulting, transferring and planning all matters related to safety (Patterson, Freese, & Goldenberg, 1990). Women generally changed their health behaviours when they were pregnant. More than fifty percent of Mexican women reported that a healthy baby was the most important reason for changing their lifestyle behaviours during pregnancy (Higgins *et al.*, 1995).

Self-care actions in pregnant women can be divided into two types: self-care behaviours for maintenance of health and well-being, and self-care behaviours for the management of common or minor ailments.

2.3.1.1 Self care behaviours for maintenance of health and well-being

Self-care behaviours in pregnant women may depend upon the information given during prenatal care. The clinical practice guidelines in some countries such as the United States, Australia and Canada implemented 11% of routine prenatal care have introduced pregnancy education to new mothers (Haertsch, Campbell, & Sanson-Fisher, 1999). The role of maternal education is an important factor to encourage women to use maternal and child health services in Thailand, such as the use of tetanus toxide inoculations, prenatal care, and assistance from formal sources during delivery (Raghupathy, 1996). Most women spend some time with health care professionals during pregnancy. Responsibility for women's self-care behaviours in pregnancy can, however, be affected by health care professionals, family, friends, and their social network (Hart, 1996).

A good lifestyle is an important aspect of health promotion during pregnancy. Pregnant women may have to change their behaviours in a variety of ways to maintain health such as type and quality of food eaten, and smoking cessation (Nigenda *et al*., 2003). There is evidence that most pregnant women undertook activities to keep healthy such as walking or jogging, changing their normal diet, changing their type of job, and meditating (Hart, 1996; Hawkins, Aber, Cannan, Coppinger, & Rafferty, 1998). The duration of sleeping or rest time was also found to be an important factor in pregnancy. More than 35% of pregnant adolescents in Florida increased the duration of their sleep and rest and one third of women in the Southeastern United States were concerned about rest as the second most important issue in healthy behaviours during pregnancy (Lewallen, 2004).

Physical activity is necessary for relieving the discomforts of pregnancy such as swelling of the feet and legs, cramps, and fatigue. Moreover, exercise helps to prepare the body for labour, and often leads to increased emotional well-being. Seventy-eight percent of pregnant women in

Evenson and Bradley's (2010) study agreed that they should continue regular exercise and ninety-six percent accepted that exercise can improve their baby's health and their delivery. Walking was the type of exercise which was most frequently mentioned during pregnancy (Clarke & Gross, 2004; Hawkins *et al.,* 1998). Jordanian pregnant women reported that they considered daily activities such as using the stairs and doing housework as part of their exercise rather than a regular exercise pattern such as aerobic exercise and swimming (Gharaibeh, Al-Ma'aitah, & Al Jada, 2005). The physical changes during pregnancy and the information they were provided with influenced pregnant women to reduce the level of exercise and to stop when there was the potential for harm (Clarke & Gross, 2004).

Nutritional behaviour is particularly related to pregnancy outcome. During pregnancy, women are often concerned and change their nutrient intake (Lewallen, 2004). The intake of milk, fruits and vegetables are increased but fatty foods and caffeine decreased (Lee & Grubbs, 1993). When considered in the pregnancy period and pre-/post-pregnancy, the patterns of dietary behaviours were significantly different. The consumption of milk, fruits and vegetable including frequency of having breakfast in the pregnancy period are double that in pre-/post-pregnancy (Olson, 2005). Similarly, the majority of low-income pregnant women in the Southeastern United States mentioned that they wanted to be perceived as healthy persons by choosing the right food to eat. Vegetables and fruits were considered good to eat, but junk foods, sweets, soda, and anything with a lot of salt were avoided (Lewallen, 2004). Some pregnant women concentrated on the quantity of food rather than the quality and the essential nutrition (Gharaibeh *et al*., 2005). Thus, nutritional practices often need serious interventions to improve health and lifestyle behaviours (Lee & Grubbs, 1993). Considering the consumption of vitamin and mineral supplements, more than fifty percent of pregnant women in Florida took them everyday, especially folic acid (Lee & Grubbs, 1993). Eighty-six percent of pregnant women who intended to breastfeed took high levels of

folic acid and 48% of them increased their level of iron intake (Haslam, Lawrence, & Haefeli, 2003).

Taking responsibility for health during pregnancy is very important for a healthy mother and a healthy baby. It can be evaluated by examining the number of routine prenatal care visits to a midwife or doctor. Commonly, pregnant women expected that the antenatal clinic could provide information, reassurance, medications and early detection and treatments (Patterson *et al.*, 1990). Almost all of Jordanian women sought prenatal care more than postnatal care and more than 50% visited private clinics as they believed that they offered high quality care (Gharaibeh *et al*., 2005). In Florida, most pregnant teenagers started to attend prenatal clinic in the first trimester but some teenagers delayed going to prenatal care until the third trimester (Lee & Grubbs, 1993). Women who had intended to become pregnant were more likely than those women who had unwanted or unplanned pregnancies to have early concerns about antenatal care and visit antenatal clinics following the recommended schedule (Kost, Landry, & Darroch, 1998). Regarding smoking and drinking alcohol, pregnant women who received health education about the effect of smoking and alcohol on the baby either reduced the amount of their intake or eliminated smoking and drinking alcohol completely (Higgins *et al.*, 1995; Kost *et al.*, 1998).

2.3.1.2 Self-care behaviours for management of minor ailments

During pregnancy, most women experience symptoms such as vaginal itching, morning sickness, headaches, and frequency of micturition (Nigenda *et al*., 2003). Taking medicines to solve these problems is of much concern because some medicines affect fetal development. Some groups of women only used vitamin and mineral supplements, while about 25% of pregnant women used over-the-counter drugs such as analgesics, and hormones (Hawkins *et al.*, 1998). Herbal medicines were used by 96% of pregnant women in Canada. Herbal tonics were mostly used as herbal medicines and 78% of women preferred to use them for solving health

problems (Westfall, 2003). Fifty percent of pregnant women relieved nausea and/or vomiting by using herbal remedies such as ginger, peppermint, and cannabis. They reported that all three herbs affected their symptoms to a moderate level (Westfall, 2004). Gingival health was the major oral health problem. 30% of Danish pregnant women had one or more gingival problems such as inflammation, bleeding gums whilst brushing the teeth, swollen gums, and a change in the colour of their gums. The majority of women visited the dentist and paid more attention to oral hygiene, such as brushing their teeth at least twice a day to prevent oral and gingival problems occurring (Christensen, Jeppe-Jensen, & Petersen, 2003).

2.3.2 Self-care behaviours in breastfeeding women

After childbirth, women mentioned that becoming a mother had made them change their lives dramatically. Not only did they take more responsibility for their children, they also took responsibility for their lives and well-being to make sure that they could take care of their children and live long lives. Comparing their health before and after giving birth, most mothers believed that they had made more changes in their health behaviour after giving birth (Liamputtong, Yimyam, Parisunyakul, Baosoung, & Sansiriphun, 2004). The breastfeeding period is very important for the health of both mother and infant. Women who have breastfed their infants have possible health benefits such as an earlier return to pre-pregnancy body weight, their uterus returning to normal in shape and size rapidly, and a reduced risk of premenopausal osteoporosis, breast cancer and ovarian cancer (Newcomb *et al.*, 1994, UNICEF and Department of Health, 2010). The advantages of breastfeeding for infants are improvement in general health, improved growth and development and reduced risk of several diseases such as diarrhoea, upper and lower respiratory tract infections (Brown, Black, Lopez de Romana, & Creed de Kanashiro, 1989) type I and type II diabetes (Horta, Bahl, Martines, & Victora, 2007), and has been shown to reduce the risk of childhood obesity (Armstrong, Reilly, & Child Health Information Team, 2002).

Self-care in breastfeeding women has had less focus than the strategies to support breastfeeding. Most available research focuses on factors to encourage and prolong breastfeeding rather than emphasising behaviours such as diet or use of medicines. Human milk can be contaminated by drugs, environmental chemicals and non-medicinal substances. If these are excreted into the breast milk the infants can also be affected by them (Ito & Lee, 2003). For safety, breastfeeding women should take a well-balanced diet and attain enough calories rather than take vitamin and mineral supplements and they should be more careful in the use of medicines. Drinking fluid is also important for nursing mothers, such as milk, juice or soup and they should take enough to prevent dehydration. Caffeine is not harmful for babies but it can affect the sleeping behaviour of babies. Alcohol can affect the ejection reflex of milk and it can pass into breast milk, so a nursing mother should avoid alcohol (McPherson, 2004). In terms of dietary intake, sixty percent of US low-income women in the postpartum period took adequate amounts of meat, but the recommended intake amounts of vegetables, fruits, total fat and sugar intake was achieved in less than thirty percent of women (George, Milani, Hanss-Nuss, & Freeland-Graves, 2005).

In the first week of the postnatal period, more than 90% of women take some medicines and some studies showed that the initiation of breastfeeding and duration may decline because of the use of medicines (Ito & Lee, 2003; W. Jones & Brown, 2000). More than sixty percent of women in the Netherlands used medicines while breastfeeding. Vitamins are the most common medicines taken by breastfeeding women. Most of the breastfeeding women in the Netherlands reported that taking medicines was the most important reason in their decision to stop breastfeeding (Schirm, Schwagermann, Tobi, & Jong-van den Berg, 2004). The mother's milk can be contaminated by many medications (prescription and over-the-counter medicines). Therefore, most women mentioned that they consulted and sought information on the safety of medicines before using them. The sources of information used were the internet, media, family, friends, drug

manufacturers, and health professionals such as general practitioners, pharmacists, midwives and health visitors (Ito & Lee, 2003; Jones & Brown, 2000). The most important primary sources for supporting first-time mothers were nurses or midwives, their husbands or partners, and their own mothers (McVeigh, 2000; Warren, 2005).

2.4. Traditional beliefs about pregnancy and the postpartum period

Pregnancy and the postpartum period are special situations in the life of women and their babies. Traditional beliefs are transferred by word of mouth from generation to generation and adherence to them also depends on the women's education and the amount of health information given to women (Liamputtong *et al.*, 2005). Traditional beliefs in pregnancy and childbirth, including breastfeeding, are very important to women's behaviours especially for women in rural areas.

In developing countries, most women return to their traditional or cultural practices while they are pregnant and during breastfeeding. These women adhere to traditional practices aimed at restoring their health and preventing themselves and their babies from developing illness in the future. This is consistent with finding of studies in Vietnamese women (Lundberg & Trieu Thi Ngoc, 2010) and Chinese women (Wang, Wang, Zanzhou, Wang, & Wang, 2008).

Most traditional beliefs around pregnancy focus on food and drink. Women are encouraged to eat healthy food and follow their individual culture's traditional beliefs. For example, pregnant Mexican Americans revealed that they were eating more traditional Mexican dishes and took good care of themselves following the cultural role of mother for the baby's benefit (Gutierrez, 1999). Interestingly, some types of food should be avoided in pregnancy but were eaten because of the influence of traditional beliefs. Egg is the most common protein food but pregnant Zambian women were advised not to eat eggs because if they did it was believed that their baby

would be born without hair and this would embarrass their family (Maimbolwa, Yamba, Diwan, & Ransjö-Arvidson, 2003).

In India (Choudhry, 1997), women believe that cold foods are recommended during early pregnancy to prevent miscarriage, and hot foods are introduced during the last stages of pregnancy for fetus expulsion. The perception of foods as hot or cold varies from region to region. Hot foods tend to be foods such as meat, eggs, fish, onion, garlic, papaya, and most spices such as ginger and chillies, whereas cold foods might include milk, yogurt, coconut, green vegetable, rice, and banana.

The period after birth, postpartum period, is believed to be a vulnerable period for a woman's life. During this period, lactation begins whilst the woman recovers from giving birth. Women in this period were concerned about behaviours and dietary intake. In China, this period is the first 30 days after birth and is called "doing the month". During this period, women are encouraged by Chinese traditions to pursue specific behaviours (Wang *et al.*, 2008). Similarly, the first 30 days after birth in Thailand is called "Yu Duan" or "Yu Fai (lying by the fire)". In this period, women are encouraged to stay in their home, to protect the body from wind by covering themselves with winter clothing and to consume hot food and drinks (Kaewsarn *et al.*, 2003b; Liamputtong, 2004). This is the same in Vietnam's tradition (Lundberg & Trieu Thi Ngoc, 2010). The new Vietnamese mothers have to wear warm clothes to avoid exposure to the cold and put cotton wool balls into their ears to prevent the wind from blowing through the head during one month after delivery. They also have to use charcoal fires in small clay stoves under their beds for three months this is known as "roasting the mother" and aims to heat the women's body and restore their body to health by increasing their temperature and contracting both the abdomen and the uterus.

In Turkey, Iran and Argentina, the first 40 days after birth is considered as the important period for women (Martnez, 2008; Ozsoy & Katabi, 2008).

Women in these countries have to stay in their home until 40 days after birth. They also have to keep away from guests or strangers. In Indian culture, the 40 days after delivery is recognized as the confinement period. The new mother can receive body massages and special, nourishing foods (Choudhry, 1997).

Considering eating behaviours, most Chinese women in the postpartum period were introduced to soft foods, hot foods, and sweet foods, such as rice, noodles, and eggs, while they were prohibited to eat cold, hard and sour food including fruit and vegetables (Wang *et al.*, 2008). In addition, Indian women were encouraged to eat hot food and dried ginger for helping to control bleeding and to act as a uterine cleansing agent (Choudhry, 1997). Women from India, Argentina, Turkey, and Iran were encouraged to avoid taking a shower and shampoo with cold water after delivery (Choudhry, 1997; Martnez, 2008; Ozsoy & Katabi, 2008).

2.5. Pharmacist's role in supporting self-care and self-medication

Self care is not only important for lay people but is also essential for the healthcare professionals. It is fundamental that healthcare professionals understand people's self care behaviour and provide advice to support people as they seek information and treatment in order to care for themselves. Primary care professionals can respond to patients with common and minor ailments. The interaction with patients and the provisions of medicines and non-pharmaceutical solution to illness are an important role for community pharmacists who also provide advice and medicines for both acute and chronic conditions (Jones, 2000).

Community pharmacists have an important role in facilitating self-care activities and promoting appropriate practices for maintaining health and well-being, while other health care professionals also have a role to support and encourage self-care. The pharmacist is not only a medicine supplier,

but also a member of the healthcare team and is able to support self-care for the public (Coons, 1990; World Health Organization, 1994). The five roles of pharmacist in self-care and self-medication were also identified (Anderson, 2002; World Health Organization, 1994).

1. As a communicator:

The pharmacist should communicate appropriately to collect medical data and proper health information from patients. Moreover, pharmacists should be able to support patients in suitable and responsible self-medication and self-care or refer the patient when necessary to other medical resources.

2. As a quality drug supplier:

The pharmacist must stock good quality medicines and medical products.

3. As a trainer and supervisor:

The pharmacist should participate in continuing education and help non-pharmacist staff to improve the standards of practice by supporting and training them.

4. As a collaborator:

The pharmacist must have a good relationships with other health care professionals and all should be able to share medical information and knowledge.

5. As a health promoter:

The pharmacist is encouraged to join in with health promotion campaigns and support health choices for people. Pharmacists should help people to maintain good health and give advice including reassurance.

Self-medication is a part of the concept of self-care and means people can take responsibility for selecting medicines to treat their symptoms by themselves without advice from health professionals. Due to over-the-counter medicine advertising, the mass media, and the internet, the public

has more access to self-care information and has become more practiced in self-medication. The risks of self-medication and non-prescription medicines, however, are still mentioned and an increase of over the counter drug misuse has occurred. The need for professional guidance for selection of suitable medicines for each ailment has increased (Bissell, Ward, & Noyce, 2000; Hughes *et al.*, 2001). It can be clearly seen that community pharmacists have a key role in the provision of information in these circumstances (Westerlund, Marklund, Handl, Thunberg, & Allebeck, 2001).

In fact, community pharmacists have provided a service directly to the public for a long time. Their traditional role is as a medicine supplier both with and without prescriptions. Nowadays, pharmacists have been involved in providing pharmaceutical care. The practice of pharmaceutical care involves identifying, preventing, and resolving drug-related problems to improve patient outcomes (Hepler & Strand, 1990). From the definition of pharmaceutical care, community pharmacists are ideally positioned to provide disease prevention, give medical information, and support health promotion services, as they have numerous opportunities to communicate with patients for managing minor ailments and providing health information (Barber, Smith, & Anderson, 1994). Consequently, community pharmacists are expected to have the necessary knowledge to give advice on safe and appropriate products and encourage behaviours for good health and well-being (International Pharmaceutical & Federation, 1996).

Several recent studies from different parts of the world have examined the public's attitude to pharmacy services and have confirmed that pharmacists' services are of value. For example, pharmacists are seen in general as the self-care consultant or health advisor and can respond to the public's demands. People preferred to receive advice from a pharmacist rather than from a doctor when their condition was not serious, and the medical and health information which they received from pharmacists can support their self-medication (Wazaify, Al-Bsoul-Younes, Abu-Gharbieh,

& Tahaineh, 2008; Wilbur, Salam, & Mohammadi, 2010). They felt comfortable asking the pharmacist for information and advice, and pharmacists gave them enough time to discuss their health problem and were good listeners (Bawazir, 2004; Chen & Britten, 2000). As a result, customer satisfaction with pharmacy services was high (Simoens, Lobeau, Verbeke, & Aerschot, 2009). This evidence can be supported by the study in Arkansas (Hong, Spadaro, West, & Tak, 2005) that cited that around half of participants were willing to pay for pharmacist services that provided advice and useful information about self-care and over-the-counter medication.

Advice and information giving from community pharmacists is indicated as the main tool for supporting self-care and self-medication, and screening of minor illness (Shaw & Trevean, 1983). Providing medication information to patient, such as directions of use, advice on side effects, storage, and lifestyle modifications, is also widely called ‘patient counselling’. The patient counselling role of community pharmacist can start in several ways when customer comes to pharmacy (Rantucci, 2007). For instance, the pharmacist is approached by a customer who asks for a recommendation for treating a particular condition, and the customer requests to purchase a specific product.

In the process of counselling, it is essential that pharmacists can encourage customers to have two-way conversation to exchange information, feelings, beliefs and ideas between them. Furthermore, pharmacists could gather customers’ details and information to identify the problems, and then use the details to consider the appropriate treatment strategies (Pilnick, 2003). Therefore, pharmacists must have good communication skill which combines questioning, explaining, listening and reflection as basic communication skills.

Several mnemonics have been identified to help with gathering background information and evaluating patients in self-care issues (Buring, Kirby, &

Conrad, 2007; Maguire, 2002). For example, the WWHAM method is frequently used in England to help remembering the assessment questions. Each letter represents a series of questions "**W**ho is the patient?, **W**hat are the symptoms?, **H**ow long have the symptoms been present?, **A**ction already taken?, and **M**edication already taken?" (Rutter, Horsley, & Brown, 2004). In Northern Ireland, the AS METTHOD is used to assist pharmacist for questioning and assessing patients in self-care (Maguire, 2002). It stands for "**A**ge of the patient?, **S**elf or for someone else?, **M**edicines being taken?, **E**xact symptom?, **T**ime and duration of the symptom?, **T**aken any action?, **H**istory of any disease?, **O**ther symptoms?, **D**oing anything to alleviate or worsen the symptom?". Furthermore, the American Pharmacists Association developed the easy process to assist pharmacists to counsel patient in non-prescription medicines. It is called the QuEST and SCHOLAR-MAC process (Buring *et al*., 2007; Ferreri, 2004). Each letter of QuEST came from "**Qu**ickly and accurately assess the patient, **E**stablish that the patient is an appropriate self-care candidate, **S**uggest appropriate self-care strategies to the patient, and **T**alk with the patient about those strategies", while SCHOLAR-MAC stands for "**S**ymptoms, **C**haracteristics of symptoms, **H**istory of symptoms, **O**nset, **L**ocation, **A**ggravating factors, **R**emitting factors, **M**edications, **A**llergies, **C**onditions".

It can be seen that all methods which are used to remind pharmacists about questioning and gathering patients' information have a similar aim. They help community pharmacists to record the details and evaluate the symptoms, and then take action in appropriate treatment strategies which are concerned mainly about safety of patients. In fact, all customers are unique and come with varying demands and specific conditions, so the contents of counselling and information which are provided by pharmacists should be difference in details to response their demands in each case (Rantucci, 2007). Pharmacists are recommended to pay particular attention and care when three groups of patients are requesting self care advice : children, old people, and pregnant and breastfeeding women. (Dinkins, 2010). In these patients, it can be seen that community pharmacists provide

services by using various different aspects of pharmaceutical knowledge to support their self-care behaviours.

With children, parents or caregivers play important roles in the selection of appropriate treatment strategies, and suitable doses and medicines for children. Purssell (2007) showed that ninety percent of parents or care caregivers sought advice about medication for their children from pharmacists. Some parents had given toxic medicines to their children and parents in the study remained confused about safe dosages. As a result, community pharmacists must take responsibility to ensure safe and effective dosing when selecting suitable products for children, and should educate parents and guardians about dosage and how to use appropriate devices for taking medications (e.g., syringes, medical spoon, measuring cup) (Dinkins, 2010; Wicker & Labruzzo, 2009).

Older people are prone to more medical problems and use many medications both prescription and non-prescription are common. As a result, the risk of drug-related problems occurs frequently with these patient (Wilhelm & Ruscin, 2009). Community pharmacists must be aware about interactions between medications and concurrent medical conditions. Additionally, the absorption, distribution, metabolism, and elimination of particular medicines are changed with increasing age. This definitely affects with therapeutic and adverse effects (Dinkins, 2010). Therefore, community pharmacist should consider carefully those effects with these patients before providing services.

During pregnancy and breastfeeding, the effect of medication is a concern for both women and healthcare professionals (Lagoy, Joshi, Cragan, & Rasmussen, 2005). Women during pregnancy ideally should not take any medication, but this may be difficult in practice. Illness can occur during 40 weeks pregnancy that must to be treated with caution so as to protect the health of both mother and baby. Furthermore, breastfeeding mothers are also susceptible to minor illness that may require treatment. Some

medicines have teratogenic effect and most medicines are excreted in breast milk, so the decision for using medication during pregnancy and breastfeeding should be considered and mother's benefit and the baby's risk weighed up (Farrer, 2009). The basic recommendation for pregnant and breastfeeding women should always be non-pharmacologic therapy. If women's symptoms can be relieved, then the risk from using medication should be avoided (Tanzi, 2010; Weaver & Howell, 2008). The following factors must be considered before providing medicines to these groups of women (Jones & Brown, 2000):

1. The drug is absolutely needed.
2. The women must be advised regarding safe use.
3. The method of medicine use must be arranged to minimise effect on the infant.
4. The decision of medicine use should be made by the healthcare professional and the mother herself.

Nevertheless, the studies relating to community pharmacists and special patient population has not been well described especially those regarding women with pregnancy and breastfeeding. There are only a few published studies about advice giving or counselling by community pharmacist about the symptoms of pregnant and breastfeeding women (Schrempp *et al.*, 2001).

The study of Merlob *et al.* (1998) focused on the rate of pharmacist counselling in pregnant and breastfeeding women by interviewing pharmacists about the counselling process for women receiving drugs. They found that medication counselling in pregnant and breastfeeding women by pharmacists rarely occurred. There was also a lack of concern about using particular questions to clarify whether or not women are pregnant or breastfeeding. This is similar to the study done by Ronai *et al.* (2009) using a questionnaire survey posted to community pharmacists in

Rhode Island, the United States. They found that very few pharmacists asked women about breastfeeding before providing services.

Schrempp and colleagues (2001) designed a study to try to understand the role of pharmacists in Nebraska about counselling pregnant and lactating women using postal questionnaires. Pharmacists were asked to provide recommendations for seven common OTC-treatable conditions, and were asked to self-rate themselves about their role, level of comfort, and related training. The findings showed the variation in the practice of pharmacists thatoccurred which depended on the wide range of beliefs about patient safety. Regarding the pharmacist's role, they thought they were qualified to recommend medicines for pregnant and lactating women but they were not very comfortable to do. On the contrary, most pharmacists in Ronai *et al*. study (2009) revealed that they were comfortable to give advice or counselling for breastfeeding women.

For counselling in pregnancy, Damase-Michel *et al.* (2004) collected the opinion of French community pharmacists using face to face interviews and focusing on ten scenarios regarding pregnancy symptoms. The findings revealed that French community pharmacists sometimes provided inappropriate advice, and most pharmacists chose the referral option. Similarly, Lyszkiewicz *et al.* (2001) evaluated community pharmacists in three countries: the Netherlands, Canada, and Iceland by using a surrogate shopper with two scenarios regarding drug use in pregnancy. The majority of pharmacists were unable to provide adequate information.

It can be clearly seen that further studies about community pharmacists' services for women during pregnancy and breastfeeding still need to be conducted especially in developing countries where people can buy most medicines without prescription in the pharmacy and community pharmacists can diagnosis as a doctor and dispense medicines. It is necessary to explore the current role of community pharmacists and provide suitable support at the request of pharmacists.

Summary

Self-care starts from doing nothing to trying to find the best method to help people to solve their own health problems. It covers a variety of activities from wellness to illness. People's responses to the self-care role are influenced by different factors such as individual characteristics, health knowledge, traditional beliefs, social support systems, and the health care system. The health of a woman during pregnancy and breastfeeding directly affects the baby's health. Therefore, the woman's behaviours during pregnancy and breastfeeding should be programmed to support activities to maintain life, health and well-being. In most developing countries traditional practices, unrelated to scientific evidence, are still followed by many pregnant and postnatal women. These women believe that these practices promote the health and well-being of themselves and their babies. In addition, self-medication is an aspect of self-care which is utilised to manage what women believe are minor symptoms of childbearing such as using analgesic for pain and fever. Community pharmacists have an important role in supporting positive behaviours in self-care by giving appropriate information and encouraging people to maintain a healthy lifestyle. There are still very few studies about community pharmacists role in advising and recommending medicines for women during pregnancy and breastfeeding. The number of studies could be increased in many countries especially in developing countries. Later chapters of this thesis will describe the detail of the Thai health system, self-care practices in Thai culture, and Thai traditional beliefs in pregnancy and the postpartum period in order to gain an understanding of self-care in pregnancy and postpartum in Thailand.

CHAPTER 3
THE STUDY CONTEXT

This chapter describes the context of the main study, Chiangmai Thailand: the setting and people, the health service system and their traditional beliefs. Emphasis in this chapter is placed on pregnancy and breastfeeding services in order to enhance understanding of their current situation. It also includes information about community pharmacy in Thailand.

3.1 The setting and people

This study was conducted in Chiang Mai province, Northern Thailand. Chiang Mai is the second largest city, next to Bangkok (the capital city of Thailand) and is considered the cultural centre of the North. It is located 700 kilometres from Bangkok and covers around 20,107 square kilometres (Northern Thailand Public Relations Development Group, 2007). Chiang Mai is divided by the national administration office into 22 Districts (Amphor): Muang, Chiang Dao, Chom Thong, Doi Saket, Doi Tao, Fang, Hang Dong, Hot, Mae Ai, Mae Chaem, Mae Rim, Mae Taeng, Omkoi, Phrao, Samoeng, San Kamphaeng, San Pa Tong, San Sai, Saraphi, Wiang Haeng, Chai Prakan, Mae Wang. Figure 3.1 presents the map of Chiang Mai province.

The population of Chiang Mai in 2004 was about 1,603,220 (790,107 males and 813,113 females), and 91.8% of them were Buddhists (Northern Thailand Public Relations Development Group, 2007). Local people are known as *Khon muang*, and use a unique dialect for communication, a different language from central Thai or the official Thai language. With differences in both vocabulary and tones, the local language, called *Kham muang*, is difficult to understand for central Thai people ("Citylife Chiang Mai," 2009). The majority of people still live in extended families, whilst only 11.8% live in a single family. Most elderly parents normally live with

their daughter and her husband, and their grandchildren (National Statistical Office of Thailand, 2004). As a result of the extended families, the traditional and cultural lifestyles still appear in the everyday life of people in Chiang Mai. The traditional beliefs in Chiang Mai that focus on pregnancy and breastfeeding are identified in the section 3.3.

Figure 3.1: Map of Chiang Mai province, Thailand

Source: http://chiangmai.sawadee.com and www.phukhao.com

3.2 The health service system

This section describes the official national health system in Thailand and is divided into three topics: general health services, maternal and child health system, and community pharmacy in Thailand.

3.2.1 General Health services

The Ministry of Public Health (MOPH) has mainly responsibility for the health services of both the public and private sections. Thailand's health services are divided into five levels of care as follows and were shown in figure 3.2 (Ministry of Public Health, 2004b, 2005).

Self-Care Level. People have to make decisions about health and arrange self-care by themselves, for example, smoking cessation.

Primary Health Care (PHC) Level. This level focuses on health promotion, disease prevention, curative care, and rehabilitation. People in the area can be involved in the service as volunteers which are called the Village health volunteers (VHVs). They play a key role in community health development in the village. Their main roles are to distribute health information or knowledge to villagers and to conduct health surveys. At this level, the services provided are related to self-care and primary care service provision. The important factors for medical and health activities depend on the community's needs and culture.

Primary Medical Care (PMC) Level. The health personnel and general practitioners (GPs) are the main providers. The primary care units are separated into four types.

-Community Health Posts. This unit is only in villages specifically in remote areas. A health worker from MOPH has responsibility for each unit. The services covered include: health promotion, disease prevention and simple curative care.

-Health Centres. This centre is in a sub-district or village. The workers are a health worker, a midwife, and a technical nurse. Large health centres include a dental auxiliary, a professional nurse, and a health technician. The main functions are not only health promotion, disease prevention, and curative care, but also run the standard procedures of health programmes under the technical supervision and with support from the community hospital. In addition, the staff of each centre must provide support to primary health care programmes with the help of Village Health Volunteers in the community.

-Health Centres of Municipalities, Outpatient Departments of Public and Private Hospitals at All levels, and Private Clinics. They have physicians and other health professionals.

-Pharmacies or Drugstores. They have pharmacists or pharmacy assistants who were trained about medicines and healthcare by their pharmacists.

Secondary Medical Care (SMC) Level. This level has more facilities both general and specialized facilities.

-Community Hospitals. A community hospital covers a population in a district or sub-district and has a range of beds from 10 to 120. Doctors and other health professionals are responsible for mainly curative care (curing, healing and repairing). Moreover, it has the official role in overall supervision and technical support of health centre services and public health programmes in the district in which the hospital is located.

-General or Regional Hospitals and Other Large Public Hospitals. A general hospital in this category is located in a large district town and has 200 to 500 beds, while a regional hospital located in a provincial city equipped with over 500 beds has medical specialists in all fields. These hospitals not only provide curative services but also include health promotion, prevention and rehabilitative services.

-Private Hospitals. This is a business entity with both full-time and part-time staff, and patients are required to pay for services.

Tertiary Medical Care (TMC) Level. Specialist expertise is required.

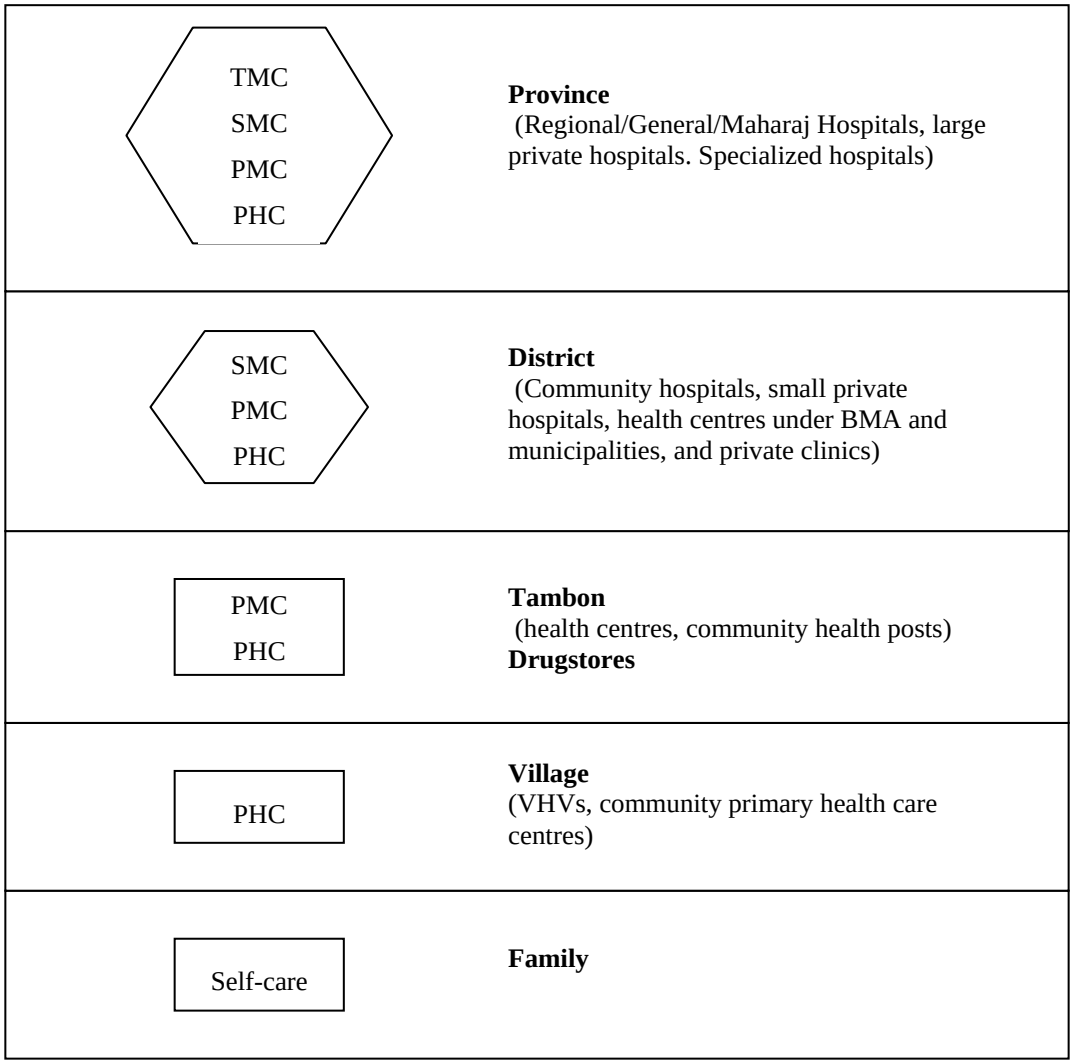
-Regional Hospitals

-General Hospitals

-University Hospitals and Public large hospitals

-Large Private Hospitals: over 100 beds

Figure 3.2: Levels of Health Services in Thailand



Source: Thailand Health Profile 2001-2004

In general, Thai people have the freedom to select the level of health services used. In the 2005-2006 health and welfare survey it was revealed that the criteria of choosing health services for people depend on socio-economic status. 35-40% of the poorest group attended health centres, whilst 50% of the richest group selected private hospitals. For cases requiring hospitalization, the community hospitals were mainly used by the poorest group (50%) and the private hospitals were popular in the richest group (40%). However, the general and regional hospitals are used much to the same extent by all income groups because the referral system gives everybody equal opportunity to access the high-capacity hospitals if necessary (Ministry of Public Health, 2008).

Previously, Thailand had four main health insurance categories which had different benefits and levels of contribution: a public assistance programme, civil servant medical benefit scheme, compulsory health insurance, and voluntary health insurance. The public assistance programme covers low-income groups, veterans, Buddhist monks, and under-privileged people: elderly, children under 12 years, and people with disabilities. In a civil servant medical benefit scheme, government staff can claim the money back in full if they access government hospitals. Companies which employ more than 10 workers have to register their workers for compulsory health insurance under the Social Security Act covering sickness, disability, maternity, death, and this also includes child care and elderly pensions. An individual or family can also purchase voluntary health insurance or the health card programme which is implemented by the government (Towse, Mills, & Tangcharoensathien, 2004).

In 2001, the Thai government health insurance announced a new universal health insurance policy: 30 Baht health care throughout the country. It means that each person has to pay 30 Thai Baht (55.19 Thai Baht = 1 British Pound from www.exchange-rates.org 25/11/09) each visit or admission (World Health Organization, 2005a, 2005b). The initial plan for

this scheme was to improve equity and reduce coverage overlaps from the previous four insurances, but the government department and civil servants and trades unionists that have benefitted from the four schemes refused to accept it. Therefore, the 30 Baht scheme budgets from MOPH were pooled to public hospitals, other health facilities, and the low income and voluntary health card schemes. The patients in the 30 Baht scheme were called gold-card holders. Moreover, the new institutions from the National Health Security Act which regulate the quality and financial elements of the scheme in November 2002 preserved all benefit entitlements for the civil service and social security schemes members. The government hope that they can merge the four insurance schemes into a single universal coverage scheme in the future. At present, this policy promotes equality of services in both governmental and non-governmental sectors (Towse *et al.*, 2004). The universal coverage scheme reported that about 47 million of Thai population were covered by this scheme in 2004 (World Health Organization, 2007).

3.2.2 Maternal and child health system

In 2003, Thailand had a population of around 63.07 million: 29.5% (17.88 million) women aged 15-49 years and 7.59% (4.79 million) children under five years. From the updated report of UNICEF (UNICEF, 2010), total population of Thailand increased to 67.4 million, 57% women aged 15-49 years and 4.84 million of children under five years were reported.

The Safe Motherhood project has been carried out in all provinces since 1990. The objectives are to develop quality services in maternal and child health, to develop the efficiency of health personnel, and to decrease maternal and perinatal mortality. There are four types of health status indicators for mothers and children in Thailand: maternal mortality ratio, perinatal mortality rate, infant mortality rate, and the under-five or child mortality rate (World Health Organization, 2005a, 2005b).

Maternal mortality ratio (MMR) means the annual number of deaths of women from pregnancy-related causes per 100,000 live births (UNICEF, 2005c). The Thailand Ninth National Health Development Plan (Ninth NHDP, 2002-2006) has set the MMR target at 18 per 100,000 live births. The reporting system revealed that the MMR was successful for the reductions of MMR: 36 and 20.63 per 100,000 live births in 1990 and 2003 respectively. Haemorrhage was the major cause of maternal death (27.8%) in 2003, and it has occurred in 12.76% of deliveries to mothers aged under 20 years (World Health Organization, 2005a, 2005b). In 2008, UNICEF (2010) reported that MMR of Thailand reduced to 12 per 100,000 live births which achieved the target of Ninth NHDP.

Perinatal mortality rate (PMR) is the number of deaths of a fetus weighing at least 1,000 grams or after 28 weeks gestation is completed, or at least 35 centimetres of a crown-heel length plus the number of early neonatal deaths per 1,000 live births (World Health Organization, 2005a). The national target of Thailand by the Ninth NHDP at the end of 2006 is at 9 per 1,000 total births. The Safe Motherhood programme reported that 9.15 per 1,000 live births were PMR in 2002 and 8.39 per 1,000 total births in 2003. The major cause of perinatal deaths was maceration or late pregnancy inter-uterine death (38.16%) (World Health Organization, 2005a, 2005b).

The definition of the infant mortality rate (IMR) is the probability of dying between birth and exactly one year of age expressed per 1,000 live births (UNICEF, 2005c). At the end of 2006, 19 per 1,000 live births is the IMR national target of the Ninth NHDP. IMR in Thailand had declined from 40.7 in 1984 to 26.1 in 1996 (Ministry of Public Health, 2004b) and to 20.0 in 2004 (UNICEF, 2005c). The last report from UNICEF (2010) presented that IMR in Thailand in 2008 was 13 per 1,000 live births

The rate of child (under five years) mortality per 1,000 per 1,000 live births had gradually decreased from 148 in 1960, 28 in 2002, 26 in 2003 (World Health Organization, 2005a, 2005b), and to 14 in 2008 (UNICEF, 2010).

All health care levels throughout Thailand provide Maternal and Child Health (MCH) services. The health volunteers at the village level help to advise and refer cases to health centres including maternal and paediatric cases. The MCH services system has a network linking all levels of health care units together via a referral system.

At present, The Ministry of Public Health implements the provision of maternity services to all pregnant women and states that they should attend an antenatal care centre at least four times. The frequency of antenatal visit depends on health-care providers and the week of gestation. In general, a pregnant woman should register her pregnancy and seek antenatal care at the first signs of her pregnancy, after that she should have a check-up at the antenatal service every month until 28 weeks of gestation and then every two weeks until 32 weeks and then every week until delivery. The obstetric and gynaecological nurses or midwives have responsibility for a normal pregnancy service, and the obstetrician should see a pregnant woman at least once. If it is a high risk pregnancy, the obstetrician or gynaecologist will provide care throughout the antenatal period (Liamputtong *et al*., 2005).

The percentage of antenatal care coverage of at least one clinic visit in 2003, however, was only 92%, and the percentage of deliveries attended by skilled health personnel such as a doctor, nurse or midwife was 99% in 2003 (UNICEF, 2005c). In 2008, UNICEF (2010) reported that the antenatal care coverage for at least one visit was increase to 98%.

Antenatal services are routine physical examination, voluntary counselling, HIV and thalassaemia testing, tetanus vaccination, health education, and provision of folic acid and iron supplements. The health services in government hospitals provide antenatal care for a pregnant woman free of charge. The MCH Booklet and Pregnancy Pathway are given to all pregnant women on their first antenatal visit (World Health Organization, 2005a).

With reference to child birth policy, most Thai women in the past had their delivery in their home by a traditional midwife called *Mortumyae*. Presently, the introduction of Western style medicine influences women's attitudes and the decisions to select a safe place for their deliveries. They believe that both modern equipment and well-trained professional health care mean that services can be provided more safely in hospitals. As a result, more than 95% of deliveries currently happen in hospital, both private and public hospitals or in health-care settings where pregnant women register and receive antenatal care. In government hospitals, regional hospitals and provincial hospitals, midwives generally perform the delivery under an obstetrician's routine orders in the normal labour. The obstetricians meanwhile have the main responsibility for women during high-risk labour. In the University hospital, the processes of delivery both for normal and high-risk women were provided mainly by obstetricians and medical students. In private hospitals, women can choose a private obstetrician to take care of them in both the antenatal and delivery processes. The choice of delivery, however, still remains with the mothers and they are recommended to discuss this with their doctor beforehand (Chunuan *et al*., 2004; Ministry of Public Health, 2005).

The average length of stay in hospital is two days after birth for normal mothers and babies. If the baby is sick or has complications and has to be hospitalized for more than two days, the mother is generally discharged before the baby when her health status is stable. Some hospitals, however, arrange spaces for mothers of sick babies to stay and provide education about breastfeeding and essential care (Ministry of Public Health, 2005).

Both mothers and babies may be visited at home by health personnel to educate mothers and to give information if the births happen outside the hospital. If the births occur in hospital, they have to make an appointment to come back for a health check after birth and to give the necessary vaccination after one month. Standard postnatal care is achieved completely in 61.3% of mothers. This standard requires that all postpartum

mothers must have at least three visits by the trained medical and health personnel (World Health Organization, 2005a).

3.2.2.1 The Maternal and Child Health Programme Implementation

During 1999-2000, health promotion programmes were carried out by agencies in public and non-governmental organizations under the policy of the Ministry of Public Health such as the modification of health behaviour and including self-care encouragement in individuals and the community. For maternal and child health, the health promotion programmes and activities focused on three projects (Charupatanapong *et al.*, 1996; Ministry of Public Health, 2004b).

1. Project of Thalassemia Prevention and Control
   The target is to reduce of the thalassemic infant rate to 10 percent.
2. Project of Breastfeeding promotion services
   The Baby-Friendly Hospitals Project was launched in both public and private hospitals, including health centres.
3. Project on Birth Asphyxia Reduction
   MOPH implemented a plan to decrease morbidity rate and to improve the development of infant's brain caused by asphyxia.

The Ninth NHDP (2002-2006) implemented the programmes of maternal and child health under the responsibility of Department of Health, the Bureau of Health Promotion.

1. Safe Motherhood Initiative project:

   The objectives of this project are to reduce maternal mortality, perinatal mortality and infant mortality. It contains three phases :

   Phase I focuses on building the problem awareness, developing surveillance systems and evaluating the problem causes.

   Phase II emphasizes improvement and development of the quality of care models from the reported data.

Phase III uses models from the second phase to provide the quality of antenatal care, delivery care, postpartum care and child care.

2. Action for Safe Motherhood Programme:

   The hospital-based data on MMR, PMR and death causes were conducted by the same format. Many training programmes were implemented throughout the country such as risk management in antenatal care, breastfeeding, improvement in the quality services in health care level, etc.

3. Thalassaemia Prevention and Control Project:

   Pregnant women were counselled using a tool for screening Thalassaemia in order to prevent new cases and educate people.

4. Promotion of Breastfeeding Services by Health Facilities:

   The Baby-Friendly Hospitals project in hospital was implemented by The Ministry of Public Health. 98% of hospitals and 92.8% of health centres were certified by this project.

5. Reduction of Birth Asphyxia Project:

   In 2003, the rate of birth asphyxia had decreased from 44 per 1,000 live births in 2000 to 28.27 per 1,000 live births. The target focuses on the reduction of newborns incidence with one-minute APGAR (**A**ppearance, **P**ulse, **G**rimace, **A**ctivity, **R**espiration) score lower than seven.

6. Prevention of Mother-to-Child Transmission of HIV/AIDS:

   All pregnant women with HIV from 28 weeks gestation to birth should take zidovudine or azidothymidine (AZT) under the national policy guidelines. Moreover, they should receive 200 mg of nevirapine in one dose. Regarding AZT in babies, a six-week AZT therapy must be received by newborn and the baby must continue to take the infant formula until one year. The number of HIV children

aged 0-4 years from vertical transmission had declined from 1,247 in 1997 to 547 in 2000.

7. Nutrition and Development Corner and Healthy Day Care Centre:

   The objective of this project is to build a nutrition and development corner and a health day care centre in every health centre and hospital. This project prepares information, toys and story books, etc. to educate parents and support their ability to promote child development.

3.2.2.2 Breastfeeding policy

In 1992, The National Breastfeeding Project was established to encourage all women to breastfeed their children exclusively for the first 4-6 months and to continue breastfeeding with complementary food well into the second year and beyond. The Thai government had been co-operating with UNICEF on a plan to draw up goals for the breastfeeding promotion to be achieved by 1995. The purposes of this goal were:

1. All mothers are able to exclusively breastfeed their infant for at least 4 months, and subsequently the infant should receive supplementary foods with continued breastfeeding up to 2 years of age or beyond.
2. Provide the relevant information and training for health care staff to ensure that all hospitals reach Baby-Friendly Hospital status.
3. By June 1993, there was no infant formula in all government hospitals for donation or for sale. It had ensured strict adherence to the Code of Marketing of Breastmilk Substitutes in all hospital.
4. A target of exclusive breastfeeding for four months was expected at 15% of infants for the end of 1995.

Since 1995, the Thailand government had promoted breastfeeding by accepted the concept of WHO/UNICEF's Ten Steps to Successful Breastfeeding. The purpose of the ten steps is to protect, promote and support breastfeeding. At the same time, the initiative of the Baby Friendly Hospitals was launched within and outside government hospitals. The main objectives were to increase breastfeeding rates and to encourage the best practice in maternity services in hospital. When hospitals have implemented the ten steps to successful breastfeeding, they are recognized as a Baby Friendly Hospital. The details of Ten steps to Successful Breastfeeding are (World Health Organization, 1989):

1. Have a written breastfeeding policy that is routinely communicated to all health care staff
2. Train all health care staff in skills necessary to implement the policy
3. Inform all pregnant women about the benefits and management of breastfeeding
4. Help mothers initiate breastfeeding within half an hour of birth
5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants
6. Give newborn infants no food or drink other than breast milk, unless medically indicated
7. Practise rooming-in: allow mothers and infants to remain together 24 hours a day
8. Encourage breastfeeding on demand
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic

Since 2002, Thailand has 98.4% Baby-Friendly Hospital and 100% Baby-Friendly Health Centres. The rate of exclusive breastfeeding at four months had increased from 3.6% in 1995 to 13.8% in 2002 (Ministry of Public Health, 2005). As a global public health recommendation, all infants,

especially in low-income families, should receive exclusive breastfeeding for at least the first 6 months of life and sustain breastfeeding for up to 2 years or beyond. The Maternal and Child Health service in Thailand has tried to promote exclusive breastfeeding up to at least 6 months after birth since 2003. The percentage of exclusive breastfeeding at least 6 months of life in 1995-2003 was 4% (UNICEF, 2005c). The national target of the Ninth NHDP has been set for exclusive breastfeeding at 6 months to be 30% at the end of 2006. The lastest National research survey revealed that only 20.7% of babies were exclusively breastfeeding at 4 months, and 14.5% were at 6 months in 2005 (Ministry of Public Health, 2005).

The international code of marketing of breast-milk Substitutes is a project to support breastfeeding policy. It was adopted from the Code of Marketing version 1981 by WHO and was launched to member countries around the world to encourage breastfeeding and to protect mothers from pressure to use substitutes for breast-milk. The Code has been adopted by 181 countries (World Health Organization, 1981). Thailand accepted this project in 1981 by making a voluntary agreement between the government and the business companies of baby foods and related products. The guide of the code has 10 important activities (Hangchaovanich & Voramongkol, 2006) :

1. No advertising or other forms of promotion to the public.
2. No free samples to provide for mothers by either direct or indirect ways.
3. No product promotion within the healthcare facilities.
4. No company sales representatives to advise mothers.
5. The materials with information and education on infant feeding must be approved by government. All information for the mothers must focus on the benefits of breastfeeding and the cost and hazards of artificial feeding.
6. No free gifts to be given to health care workers.

7. The product information for health care professionals must be scientific and contain factual details.
8. No pictures or text for representing the usage of infant formula on any labels.
9. No promotion of unsuitable products such as sweetened condensed milk.
10. Manufacturers and distributors are responsible in monitoring their marketing practices to ensure that their conduct conforms to the Code at all levels.

Unfortunately, the Code is only a recommendation and not a law in Thailand. Voluntary self-regulation of the Code by the infant formula companies has not worked in Thailand. The monitoring and evaluation of the Code conducted in 1998 (Taylor, 1998) and 2004 (Ministry of Public Health, 2004a) clearly found many of the worst and most frequent violations of the code in Thailand. The results of the 1998 survey in Bangkok Thailand revealed that 26% of the participant mothers in Bangkok reported receiving free samples of a breast milk substitute including a feeding bottle and teat. In addition, half of the health care workers reported receiving formula milk samples in the work places, and 33% revealed receiving information that violated the Code. In 2004, the new mothers revealed that they were introduced to formula milk in the hospital after delivery and received free samples when they went to register the baby in the district office. The most important target of manufacturers and distributors for formula milk promotion is still health professionals in the hospitals especially in maternity wards (Ministry of Public Health, 2004a). Moreover, television or other media advertisements still promote infant formula milk. As a result of this marketing, many parents think that infant formula is as good as breastmilk (Keenapan, 2008).

In parallel with the promotional campaigns about exclusive breastfeeding 6-months and prolonging breastfeeding until 2 years, the major issue that affects the breastfeeding duration is the time that mothers are able to spend

at home with their baby. Nowadays, Thai women are involved in the paid labour force, particularly in work outside the home. Employment significantly restricts a mother's time and freedom (Yimyam & Morrow, 1999). Under the Thai national law since 1993 and the Labour Protection Act of 1998, mothers have the right to 90 days maternity leave with full pay. The salary is paid during this period by the government for government officials, while in the private sectors, the first 45 days are paid by the employer and other days are paid by the National Social Security Fund (Hangchaovanich & Voramongkol, 2006).

Although the Thai government via the Ministry of Public Health widely promotes breastfeeding and prohibits the use of breast-milk substitutes, the national survey still reported a high percentage of initial breastfeeding dramatically decreasing after 1 month, and there is early weaning with solid food (Ministry of Public Health, 2002). The breastfeeding patterns are also dependent on the mother's education and location of residence (Knodel, Chayovan, & Wongboonsin, 1990). Mothers with higher education tended to breastfeed for shorter duration than mothers with secondary and primary education, while women from urban areas breastfeed their children for a shorter time than rural women. The percentage of women who never breastfed declined from 17% to 9% in urban areas and for rural women declined from 8 % to 2%.

Overall Thai government policies to support and encourage breastfeeding seem to have affected the increasing rate of breastfeeding babies. The role of traditional beliefs, however, in breastfeeding and postpartum practices, is still mentioned by the modern culture mothers. It is a well-known fact that culture influences individual health behaviours, and the strong family connections and ancient traditions still reinforce the health behaviours especially in new mothers (Kaewsarn, Moyle, & Creedy, 2003a). The details of traditional and cultural beliefs about the maternity period in Thailand are presented in section 3.3.

3.2.3 Community Pharmacy in Thailand

Over-the-counter or non-prescription medicines and complementary and alternative medicines are commonly used in Thailand (Charupatanapong *et al.,* 1996). The drugstore or community pharmacy is an important and common place to buy medicines because it is easily accessible, available at any time and there is no extra charge for advice or suggestions. In Thai pharmacies, community pharmacists can sell over-the-counter and prescription drugs without a physician's order except for some controlled drugs. Moreover, the pharmacist's role as prescriber and dispenser is accepted by customers especially in rural areas.

After January 1999, the Thai government decided to reclassify drug categories which followed the international standard into three categories (Thai Drug Control Division, 1999):

1.) Over-the-counter drugs: these combine household remedies and ready-packed drugs
2.) Drugs sold by pharmacists
3.) Prescription drugs.

When people become ill, purchasing drugs from the pharmacy in the first instance is a common practice in Thailand. Patients can obtain medicines at the pharmacies for self-treatment in many ways. They may show a sample and request medicines in the same shape and colour previously used or ask for the medicine by name. In some cases, people tell the pharmacists their symptoms and ask for advice from pharmacists (Charupatanapong & Rascati, 1992). Therefore, community pharmacists should have the necessary knowledge to advise on safe and appropriate medicines and encourage behaviours for good health and well-being (International Pharmaceutical Federation, 1996).

Thai community pharmacists are currently changing their role from product-oriented to patient-oriented following the pharmaceutical care concept. According to the definition of Hepler & Strand (1989; 1990), the

outcome of pharmaceutical care is to improve a patient's quality of life. These outcomes are cure of a disease, reduction of symptoms, slowing the process of disease, and disease preventing. Pharmacists have been required to apply a higher level of medical knowledge, clinical skill, and independent judgement to be involved in designing, implementing and monitoring a treatment plan for patients. Furthermore, Thai drug system allows community pharmacists to have two main roles: diagnosis as a doctor, and dispensing medicines for minor ailments and refilling medication for chronic diseases without prescription. Therefore, the Thai pharmacy services related to pharmaceutical care benefit patients with acute and chronic diseases (Sakthong, 2007). The pharmaceutical care activities among Thai community pharmacists can be divided into seven categories (Kittipibul, Kulsomboon, & Kittisopee, 2006):

1. Patient Assessment

   Pharmacists must interview the patients to define the current symptoms, confirm the correct drug administration, and evaluate the health status of patients before deciding to dispense the medicines.

2. Medication Monitoring

   Pharmacists should find out about a patient's compliance, drug interaction and adverse drug reaction, then try to solve the patient's problems about their medicines.

3. Documentation

   Pharmacists should have the patient's medical history record, the medical problems, and make an appointment for follow up.

4. Therapeutic Planning

   Pharmacists use the medical knowledge to select the appropriate medicines, and adjust the medication treatment which is suitable for each patient.

5. Referral

Pharmacists should advise the patient to arrange to be followed up by the physician, remind the patient who refills the medicine continually to contact their doctor, and make a referral note for the patient for a physician consultation if the symptom is beyond the pharmacist's responsibility.

6. Counselling

Pharmacists must have the knowledge about medicines to provide advice for patients about both self-medication and refill medication. Moreover, they should have the communication skills to explain to patients the details of their medicines, as correct understanding leads to the appropriate medicine usage.

7. Health prevention and promotion

Pharmacists should advise people about appropriate health behaviours, the activities to reduce the risk behaviours, and provide appropriate medicines or health leaflets to patients.

Community pharmacies, normally known as drugstores, still separate into two types: one that must legally have at least a part time pharmacist on duty called a modern pharmacy and another that can be run without a pharmacist called a ready-packed pharmacy. In addition, the current Thai drug system has a strict rule to allow only registered pharmacists to open the new community pharmacies. Some part-time pharmacists never present themselves in community pharmacies because they permit the owner to rent only their pharmaceutical licenses (Chalker, Ratanawijitrasin, Chuc, Petzold, & Tomson, 2005). Therefore, the patients are not able to receive advice from a registered pharmacist.

In 2003, 17,903 pharmacists were registered with the Thailand Pharmacy Council throughout the country, and of these 13,836 actually worked as pharmacists. Given the population ratio in 2003 (lastest official version), the pharmacist to population ratio is 1 to 8,511; the modern pharmacy to

population ratio is 1 to 7,739; and the ready-packed pharmacy to population ratio is 1 to 13,680 (Ministry of Public Health, 2005).

3.3 Traditional beliefs in the pregnancy and postpartum period

For centuries, Thai people had their own cultural knowledge about causes of sickness and they believed that humans' well-being depended on nature. The balancing concepts of cold and hot (Yin and Yang) followed on the ancient Chinese concepts are commonly mentioned. These are four elements which affect the human health: din (earth), naam (water), lom (wind), and fai (fire), if these elements are in harmony the health maintains. Illness happens whenever these elements are imbalanced (Rice, 1989).

In Northern Thailand, especially Chiangmai, women revealed that they still have beliefs in traditional practices during pregnancy and childbearing period (Liamputtong *et al.*, 2005). Some women believe that becoming pregnant and having a baby is the cause of loss of energy and poor health. These conditions made them weaker. Some women resort to self-help by limiting themselves to drinking only warm water and having a herbal steam sauna. They believe that this helps them to get rid of poison from their body.

Most women in Northern Thailand who have given birth strongly believe that they are susceptible to the common complaint which is known as "Wind illness" (Muecke, 1979). The diversity of signs and symptoms of wind illness are statements by local experts. It can be categorized as four aspects of wind illness:

1. the underlying humoral process: wind rises, falls or gets stuck
2. the cause of the wind disturbance: hunger, breach of post-partum custom, alcoholism, drug addiction
3. the effect of the wind disturbance: sharp pain, feeling faint, seizures

4. the site of the congested wind: nerves, chest, brain, eyes

The specific type of “wind illness” that affects only women who have given birth is called “wrong menstrual wind illness” or “lom phit duan” (Muecke, 1979). This illness is caused only during the first month following delivery and its affect is on women who have delivered a live baby but not on women after an abortion or stillbirth. It is believed to be caused by her violation of Northern Thai postpartum customs. For example, women smell a bad odour, eat the wrong food, and bathe in cold water. As a result, for the first month following delivery women must restrict their behaviours and follow cultural and traditional beliefs to prevent “Wind illness” which it is believed cannot be cured by medical practitioners.

For 30 days after birth, northern Thai women have a traditional practice called “Yu duan”: they wear thick clothing, socks, scarves, long-sleeved tops, trousers or sarongs which cover their legs, including a cotton hat. They believe that the wind can cause all manner of health problems such as headache, shivering and a fever, so a new mother must be protected. If these health problems occur they believe that they cannot be treated and that they can then occur throughout their life (Liamputtong *et al*., 2004). Interestingly, some women believe that their health would be better after the childbearing period because as a mother they had to perform many activities for their baby which were needed to help them to keep fit and strong (Liamputtong *et al*., 2005). The main rule for Thai women during pregnancy and the postnatal period scopes into the topics of dietary and behaviour as follow:

3.3.1 Dietary precautions (Liamputtong *et al*., 2005)

Pregnant women believe that they should avoid allergic foodstuff or Khong salaeng. They believe that it may be the cause of health problems leading to death and may sometimes affect the health of the fetus. Some dietary precautions are thought to protect the well-being of the fetus. For example, spicy hot food may make the baby hairless. Moreover, tea and coffee will

decrease the child's intelligence. Some foodstuffs may affect the well-being of women in the postpartum period. If a pregnant woman eats a whole banana, obstruction during birth may occur. If they take shellfish they will prevent the drying out of the perineum after birth. Similarly, they believe that their anus will be painful after delivery if they consume Thai egg plants during pregnancy.

3.3.2. Behavioural precautions (Liamputtong *et al*., 2005)

Some activities during pregnancy are believed to be unsafe by some Thai women and may lead to a miscarriage or stillbirth. These activities include lifting heavy objects, driving a car, and sexual intercourse. If they exert pressure on the fetus by driving a car or have vigorous activity of sexual intercourse, they believe that miscarriage may occur.

Some cultures strictly prohibit attending a funeral during pregnancy and if it is necessary to attend a funeral, the women must wear a brooch on the abdomen to counterbalance the effect of the funeral.

During pregnancy, women do not prepare anything like the room, clothes and so on for their baby. They believe that the death of an unborn baby may occur if they make any preparations.

Summary

Thailand has created policy and run campaigns in order to support the good health of the Thai people and has launched health promotions and prevention programmes to encourage people to look after themselves by maintaining well-being. In relation to pregnancy and breastfeeding, Thailand followed the World Health Organization and UNICEF campaigns to support healthy pregnancy and extend exclusive breastfeeding duration. Traditional and cultural beliefs, however, still influence the determination of women's health behaviours during pregnancy and breastfeeding. The community pharmacy is still an important place for Thai people to seek advice about health.

CHAPTER 4
METHODOLOGY

This chapter presents the research design and identifies the methods which were used in this study. It also includes a description of participants, data collection, data analysis, and ethical considerations. Additionally, the validity and reliability of this study are described in detail.

The main purpose of this study was to explore self-care activities of pregnant and breastfeeding women in the Thai context and the views and experiences of community pharmacists advising these women in Chiangmai province, Thailand. This study is divided into two main parts: the first relates to the experiences of pregnant and breastfeeding women and the second to the views of community pharmacists. Experienced women can describe and explain in detail the self-care behaviour and experience in pregnant and breastfeeding periods, while community pharmacists can provide a perspective of the current situation in the community.

Understanding about the complexity of human behaviour and experience is the goal of social science research. The limitations of each research study depend on the methodological design which was selected and also the ability of the researcher in terms of knowledge and skill. Each research method is designed to provide answers to particular types of questions from particular perspectives. Therefore, combining the research methods in a particular project should ideally provide more complete pictures of human behaviour and experience. As a consequence, the mixed methods design is considered to discuss a single project aimed at addressing one overall topic (Morse, 2003).

A mixed methods approach was considered to meet the objectives of this study. Qualitative methodological approaches enabled the researcher to explore the self-care activities of pregnant and breastfeeding Thai women

in the Chiangmai province of Thailand. In addition, quantitative methodological approaches enabled the researcher to identify the views of community pharmacists about self-care in pregnancy and breastfeeding.

4.1 Pregnant and Breastfeeding women

The objective of this part of the study was to investigate self-care behaviours during the pregnancy and breastfeeding periods by collecting data from women who had experience of both prenatal and postnatal periods.

Qualitative research (Bradley, 1997; Silverman, 2000b) is the method used to collect, analyse and interpret data about the social world. It investigates the lives of people, histories or everyday life. Qualitative research is concerned with developing explanations of social behaviour. It tries to find the answers to the following questions (Hancock, 2000):

- Why people behave in certain ways
- How those events form the opinions and attitudes of people
- How the surrounding events affect people
- How and why the development of cultures evolved in this way
- What the differences are between groups of people

Avis (2005) provides a basic description of qualitative research methods by explaining it as four methodological commitments: textual data, extensive interaction, flexible plan of inquiry, and naturalism.

Textual data: The methods of qualitative research mainly produce text rather than numbers. Textual data can include interviews or conversation transcripts, free text comments on a questionnaire, records from observations, the histories of case study, and medical or nursing records. People can easily explain their beliefs and thoughts in their own words or terms, so qualitative researchers generally express their findings in terms of direct quotations from their participants.

Extensive interaction: Qualitative researchers have an important role to play to make contact with, or interact with, the people who are being studied. The period of interaction with participants is called fieldwork. The typical methods used in fieldwork are observation and interviews using both semi-structured and unstructured interview schedules. Qualitative researchers mainly conduct the data collection with people and learn from them, so the interaction between researchers and participants is a very important part of the process.

Flexible plan of inquiry: when doing qualitative research it is very important to interact with people. The participants can express their ideas following their experiences or give their opinions. As a result, it is very difficult for the researcher to have a strictly predefined protocol for sampling, data collection, and analysis. Instead, they start with a broad topic or question, and after access to experienced people they develop their plan for sampling, data collection, and analysis. This flexible plan of inquiry is a major characteristic of qualitative research. Researchers can develop the hypotheses of the study, and then by expanding samples or by using new methods can test the new hypotheses or theories.

Naturalism: Qualitative research focuses on explaining and understanding the experiences of people in the social world. Consequently, the research methodology must respect the beliefs and give freedom to participants to express their feelings or ideas as far as possible.

Qualitative research is suitable for understanding the behaviour of social groups, assessing the social impact of events, studying perspectives of different groups and explaining some behaviour models such as the Health Belief Model. The methods of data collections are varied, such as observation, interviewing, ethnography, and content analysis (Hancock, 2000).

Interviews are the most commonly used data collection technique in qualitative research. Interviewing is mostly participant-led by the

researcher's use of open-ended questions and encourages the participants to feel free to talk about their lives or experiences (Willig, 2001). The researcher can ask questions using face-to-face interviews or telephone interviews. A semi-structured interview is a widely accepted strategy used to enable participants to elaborate on their own experiences and ideas in their own words. The interview also allows them to provide details of their feelings and perceptions of the phenomena under discussion. Moreover, semi-structured interviews are the most widely used means of gathering data. This type of interview can be used to collect data which can then be analysed in a number of different ways. It also allows the researcher to interact with the participants, and the participants can speak openly and freely in response to each question (Willig, 2001). In addition, open-ended questions often enable participants to tell their story.

To be able to understand women's behaviours in term of self-care during the periods of pregnancy and breastfeeding from their experiences, women must be able to describe their experiences in detail and discuss their beliefs and their attitudes using their own words. Consequently, it was deemed appropriate to use the interview process to access the participants' views about the pregnancy and breastfeeding periods, as the interview process could encourage the participants to give their perspectives and interpretations of their experiences. From the aspect of a novice researcher undertaking qualitative interviewing, a semi-structured guide for interviewing in both pregnancy and breastfeeding periods were designed to help prepare the researcher to initiate conversation and to keep the interview focused on the study objectives. The initial interview guides were developed from a literature search relating to the topic of self-care and were piloted. The questions were designed following on Spradleys' useful guide to build the interviewing questions (Willig, 2001). The questions can be divided into four different types: descriptive questions, structural questions, contrast questions, and evaluative questions.

Firstly, descriptive questions provide a general description of each case such as life histories or biographical details. This type of question was used to open the conversation and build up the relationship between interviewer and participants in this study. Each participant was requested to give her personal details such as name, age, address, contact telephone number, education, and family income. She was encouraged by the researcher to think about the first moment she knew that she was pregnant, and to describe her feelings at that stage. In the postnatal interviews, women described their feelings about their delivery process and discussed how they felt about starting breastfeeding.

Secondly, the participants have to identify the categories and frameworks of meaning by using their knowledge to express the organization of their idea about the world or their particular story. This type of question is called a structural question. In the interviews during pregnancy the conversation introduced the subject of health and well-being in pregnancy and each participant mentioned the sources of health information that she used. In addition, each woman was asked to explain about her expectation of the antenatal clinic and give the details and sources of information that supported her decision to select the antenatal clinic. After giving birth, she was asked to talk about her delivery process including her views and whether her expectations had been met. The special behaviours undertaken and foods eaten during postpartum period were also described, and the traditional beliefs were additionally discussed.

Thirdly, the comparison between situation and experiences was mentioned and described by the participants. These are called contrast questions. Each participant in this study was asked to compare her health and behaviours including lifestyle behaviours in detail, both before and after her pregnancy. The self-care practices and the use of self-medication were considered and the behaviours of pregnant and breastfeeding women were compared with those who were not pregnant or breastfeeding.

Finally, evaluative questions expect the participants to express their feeling towards someone or something. This study requested the participants to give their opinions about the antenatal clinic and the delivery ward, including the support health professionals had given them about pregnancy and breastfeeding processes. Moreover, the women were asked if they had been given suggestions for new mothers or recommended health related organizations to help them maintain health and well-being during pregnancy and breastfeeding.

During the interview process, it is very important to encourage the participant to speak freely and openly. As far as this is concerned, it has been suggested that when carrying out the interview it is important to combine the formal interview with an actual informal conversation, and to focus on open-ended questions to collect the participant's story and experiences (Willig, 2001). Open-ended questions allow the participant the freedom to discuss relevant information. The interview schedules used for each interview with pilot cases are shown in tables 4.1 and 4.2.

Table 4.1: Interview schedule: pregnant women

1. When did you know you were pregnant and how did you know it?
2. What was the first thing that you thought when you knew about your pregnancy?
3. What did you expect about the antenatal clinic and by what criteria did you select it?
4. What topics were you interested to know more about and what sources did you use for information seeking for each topic?
5. What health symptoms did you have during pregnancy and how did you manage them?
6. What lifestyle behaviour did you change or give up during pregnancy and why did you decide that? (physical activity, nutrition including food and drink, health responsibility, self-medication)
7. What will you plan for labour and why do you select it?
8. What will you plan for feeding your baby and why did you decide that?
9. What job did you have before pregnancy and what do you think about your job after the baby's birth?

Table 4.2: Interview schedule: breastfeeding women

1. (For breastfeeding mothers): What problems did you have while breastfeeding and how did you manage it?

   (For non-breastfeeding mothers): Why do you select other feeding method?
2. What sources do you use for advice or to solve your health problems during breastfeeding or the postpartum period?
3. What special behaviours did you undertake during breastfeeding or the postpartum period? Why did you decide on these behaviours and how did you know about them?
4. What topics are you interested in when you are breastfeeding in the postpartum period?
5. What do you suggest for new mothers and related health organizations to maintain health and well-being during pregnancy and breastfeeding?

The interview schedules were piloted with three Thai women who lived in Nottingham and had recent breastfeeding experience. In this stage, participants were asked to answer the prepared questions in particular sequences, and a digital recorder was used to collect the data. After the interviewing process, there was a discussion between each pilot participant and the researcher involved in checking the content, ordering of questions and length of the interview process for each period.

After completing the three pilot interviews and receiving feedback from the participants, it was decided to use interview prompts for the main study instead of prepared questions. The prepared questions had, in the pilot interviews, tended to cause a distraction from allowing the conversation to flow. In addition, sometimes the participants gave answers that covered other questions and found it irritating to have to repeat responses. Using interview prompts has the advantage of helping to control and check that key topics have been included, whilst allowing the participant more control over the discussion. Besides, the interview should feel like a natural conversation with a smooth interview process and both interviewer and participant should be comfortable with the conversation. The interview prompts for both pregnancy and breastfeeding periods used for fieldwork are presented in tables 4.3 and 4.4.

Table 4.3: Interview prompts for pregnancy

- Current health and management
- Current medicine and management
- Expectation about antenatal clinic
- Lifestyle changing
    - Nutrition: food and drink
    - Activity: work, exercise
    - Medication
    - Health responsibility
    - Traditional beliefs
- Health problems and management
- Sources of information and interested topics
- Plan for work
- Plan for feeding the baby

Table 4.4: Interview prompts for breastfeeding

- About labour experiences
- Health of baby and mother
- Health problems and management
- Feeding the baby and work
- Sources of information and interested topics
- Lifestyle
    - Nutrition: food and drink
    - Activity: work, exercise
    - Medication
    - Health responsibility
    - Traditional beliefs
- Suggestion about pregnancy and breastfeeding in Thailand

4.1.1 Sample

The types of hospital in Chiangmai city which follow the Thailand health services policy can be divided into four groups: general or provincial hospital, private hospital, medical school or university hospital, and specialized hospital. Thai people mostly have to pay a doctor's fee and the medicines cost per visit, which can vary according to the health insurance of each patient. The types of hospital can, however, roughly indicate the price difference and can indicate the class of people who receive services in each type of hospital. For example, the private hospitals are extremely costly while the hospitals which register under control by government are inexpensive, so the rich people tend to receive services from private hospitals while the middle income and poor people tend to go to the public hospitals.

In this study, to be representative of the childbearing women in Chiangmai, Thailand, it was deemed necessary to select all types of hospital to recruit the samples. Ten women in each hospital were set as the initial target to cover all classes of women. Participants in this study were recruited in the antenatal clinics of four hospitals in Chiangmai province, Thailand:

Nakornping Hospital is a 524-bed provincial hospital. It is a government hospital that serves 354,000 out-patients and 31,000 in-patients each year. Medical facilities and specialists can deal with all diseases except chemotherapy patients.

Mother and Child Hospital, Health Promotion Centre Region 10, is a specialist hospital under the Thai government. It has 60 beds and serves around 3,000 in-patients and 35,000 out-patients each year. It provides maternity and paediatric services such as antenatal care, post-natal care including a breastfeeding clinic and vaccination. It also has a programme for preparing fathers to help the mothers during the birth process.

Maharaj Nakorn Chiangmai Hospital has 1,800 beds and serves 414,362 out-patients and 49,200 in-patients each year. This is a University Hospital, where provides medical and educational support for physicians and medical students in the Faculty of Medicine, Chiangmai University.

McCormick Hospital is a private general hospital. It has 400 beds and 800 medical staff. It is a Northern Thai Christian Foundation hospital that provides education and practise for nurse students of Payap University (private university), Chiangmai province.

The women had to match four criteria in order to be included in this study. Firstly, the women had to be primigravida because the experiences and behaviours in the past may affect the self-care behaviours in the present. Secondly, they should be more than 34-weeks pregnant and have decided to breastfeed for at least four weeks. During the last period of gestation, the women would probably have gained the majority of their health experiences in self-care during pregnancy and should have received enough information to decide about breastfeeding and the delivery method. Thirdly, they had to be healthy and have no medical conditions requiring specialist treatments such as HIV because these women would have had different and additional concerns about their health. Finally, the women needed to reside in the Chiangmai province, Thailand.

The women's gestation periods were checked in the hospital visiting record files and staff nurses at reception counters were initially asked to help recruit the participants. Ten participants from each hospital were invited as volunteers to join in the processes of the study. The purpose of the study and the process of data collection were then explained to participants by the researcher. They were also provided with the opportunity to ask questions. After that women were asked to sign a consent form in the Thai language (see appendix 2) to indicate they were willing to be interviewed by the researcher.

4.1.2 Data collection

The data was collected using in-depth, audiotaped interviews. Two semi-structured informal interviews were conducted with each respondent who consented, and included discussions about their experiences and behaviours in the maintenance of health and well-being, and the management of minor symptoms during pregnancy and breastfeeding. The local Thai language was used in communications.

Women were asked to complete a form regarding their demographic details as show in Appendix 3: age, education, average family income, telephone number, the number of weeks of gestation at the present, and the due date before the start of the first interview. In addition, the women were asked to provide their address and directions to their home drawing a map to enable the researcher to go to their house for the second interview.

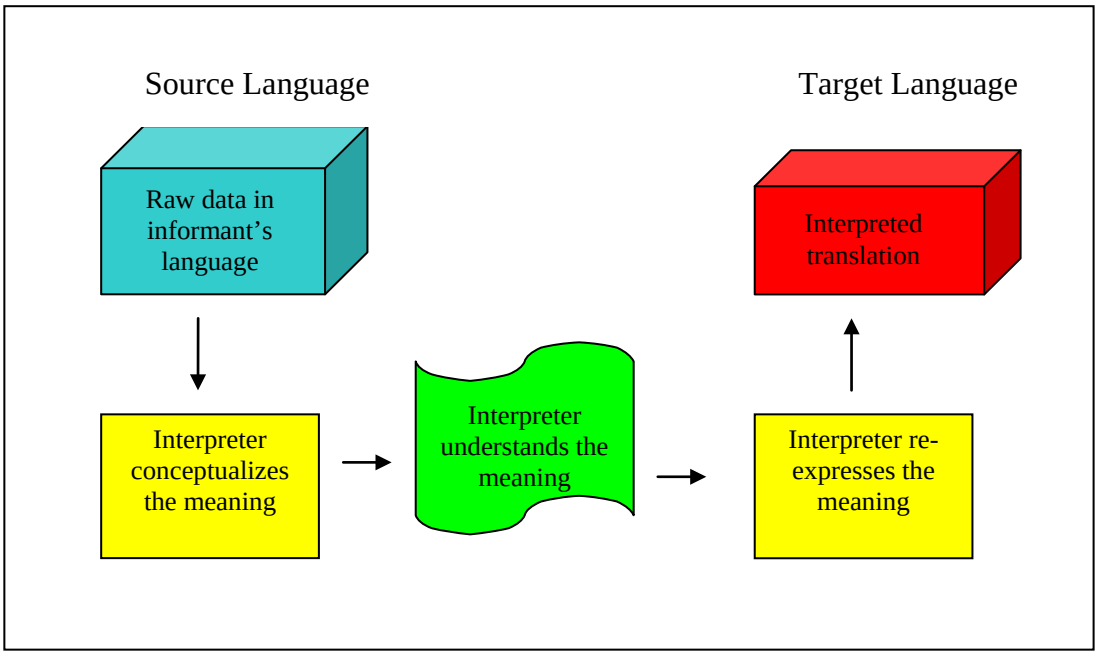
The first interviews were held during April 2006, and took place while women were waiting to see the doctor or waiting for their prescription in the hospital. The available time for interviews was set by participants for approximately one to two hours depending on the participant's information. After their first interview, they were asked to make an appointment for the second interview at a time when they would have been breastfeeding for more than four weeks. This was deemed to be a suitable time period at which to conduct a second interview because Thai government limits maternity leave to three months after childbirth and some companies only allow six weeks for maternity leave. Moreover, the first month after the birth is the key time for their elders, with their traditional beliefs, to influence the women's behaviours.

In the early stage of the interview, general questioning and informal open-ended interviews were used. The data gathering process was commented on by participants and the key prompts were considered during the interviews. The nonverbal aspects and physical surroundings were recorded in the study's field notes, but they were not included in the process of data

analysis. In the interview process, most of women used local northern Thai language for daily communication, but a few women had moved from different parts of Thailand and used the Central Thai language for communication. Therefore, the researcher used both languages depending on which one was used by participant. Audiotapes recording was used with the local dialect, and then transcribed verbatim into the official Thai language. After that, the translation into English for analysis was done by using meaning-based translations rather than word-by-word translations.

The translation which was used in this study is defined as the meaning transfer from a source language to a target language; from local Thai language to standard Thai language and from standard Thai language to English language. As translation in conversation, the interpretation process by Larson (1998) was considered to explain the role of researcher as interpreter for transfering the meaning in each sentence from a source language to a target language. The process of interpretation was shown in figure 4.1. When the interpreter was faced with a communication task, the meaning of the text was conceptualized by using vocabulary and grammatical structure suitable for the target language. The interpreter must consider the overall cultural context of source language and then reconstruct the meaning of information in a new cultural context by expressing it in the target language. The translation should use appropriate vocabulary and sentence structure, and the meaning of words or sentences can be understood in the target language as the goal of meaning-based translation. This process could make the translated dialects very accurate, clear and practical (Esposito, 2001).

Figure 4.1: The process of cross-language interpretation



The length of the interviews varied from one to two hours and depended on the personality, the emotional condition of the participant, and the general atmosphere in each hospital. Two hospitals prepared a room which provided privacy and freedom from interruptions, and the others prepared a table near the waiting area for the interviews. Some participants were very uncomfortable with the private room and seemed to fear the private atmosphere. Women who were interviewed in the open area appeared to be more comfortable talking. Therefore, the later interviews in the room were conducted with the door open which provided a more relaxed and less concealed atmosphere.

The second interviews were conducted four weeks after the participants had given birth. The appointments were confirmed by telephone. The place and time for interviews was arranged at the convenience of participants. The informal in-depth interviews took place in the women's home or in hospital when they went to a follow-up appointment and had their babies

vaccinated. Each interview took one to two hours depending on the participant's information, surroundings and interruptions.

In the second interviews, as all participants now knew the researcher, it was easy to encourage them to talk and detail their lifestyles and behaviours. In addition, most of the interviews took place at their home environment which was more natural. Additionally the baby was present and provided a focus. The initial questions asked about the birth or the birth process. Everyone was so excited and provided full details. This question led to further questions about their behaviours after delivery and encouraged them to relax and feel free to talk. In some interviews not only the participants were involved in the conversation, but also family members joined in too, especially the woman's mother. It made it difficult to control the topic of discussion, but it added to the richness of the data collected because it enabled me to gain the details of behaviours and the reasons for these behaviours.

4.1.3 Ethical Approval

Ethical approval for the proposed study, including the permission form, and the consent form was received from the Centre of Pharmacy, Health and Society, School of Pharmacy, University of Nottingham, United Kingdom in March 2006.

A meeting with the hospital's director and appropriate nurses was arranged in each hospital to clarify the details of the study and the process of data collection. A permission form in English (see appendix 1) was signed by the director of each hospital prior to the recruitment of the participants.

After receiving permission, women who met the study's criteria were approached to participate in the study. The process of data collection was explained to them and they were advised that they may withdraw at any time from the study without giving any reason. They were also told that in every part of this study, no names would appear on the report and that they

would not be identified in any way. The women who volunteered to participate in this study were requested to sign the Thai version of the consent form (see Appendix 2: Thai and English version) before starting the first interview. This form verified that the participant had understood the objectives of the study, the process of data collection, and could drop out from the study at anytime without giving a reason. They also agreed to give permission for recording the interview by audiotape recording.

During the interview, I acted as much as a researcher as possible and used my health professional role as little as I could. However, the participants knew my background and asked some questions related to health and medicines. I tried to delay my responses and answered them later at a more appropriate time.

Before the interviews, I reminded the participants to let me know if they felt uncomfortable with answering my questions and that they could feel free to stop the conversation at any time. I gave the opportunity to each participant to telephone me at anytime to rearrange an appointment or refuse the second interview.

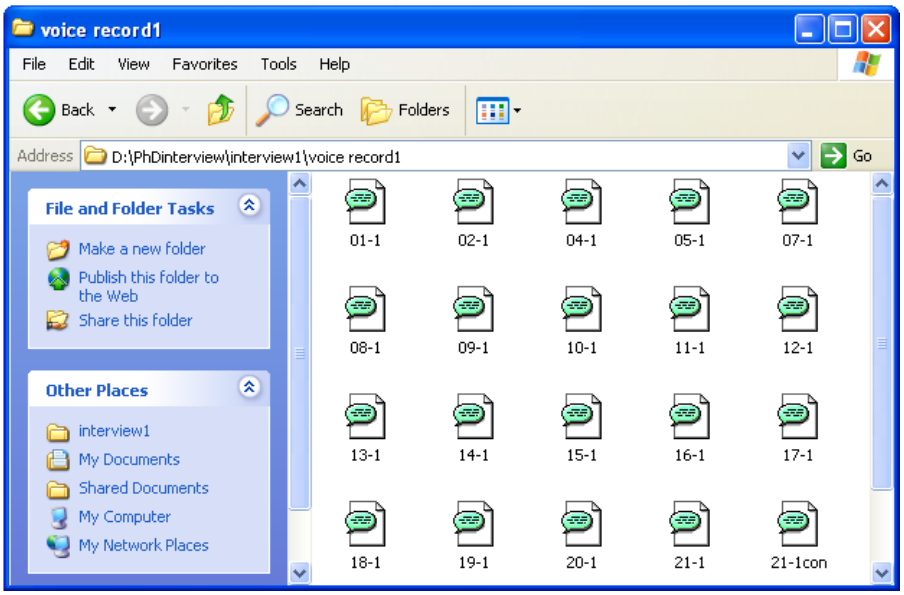
4.1.4 Data analysis

Qualitative data analysis involves two aspects: data handling and interpretation (Willig, 2001). Transcribing the interview is the important process to produce a valid written record of an interview. The stage of data analysis is a selective and interpretive process (Gibbs, 2007). In this study, manual methods were used to identify and label the coding frames. The process of themes and quote-finding concentrated on Thai transcripts rather than English transcripts because the aim was to identify the real meaning of the participant's perception and statement. Data analysis can be divided into two parts: data storage and transcription, data analysis process.

4.1.4.1 Data storage and transcription

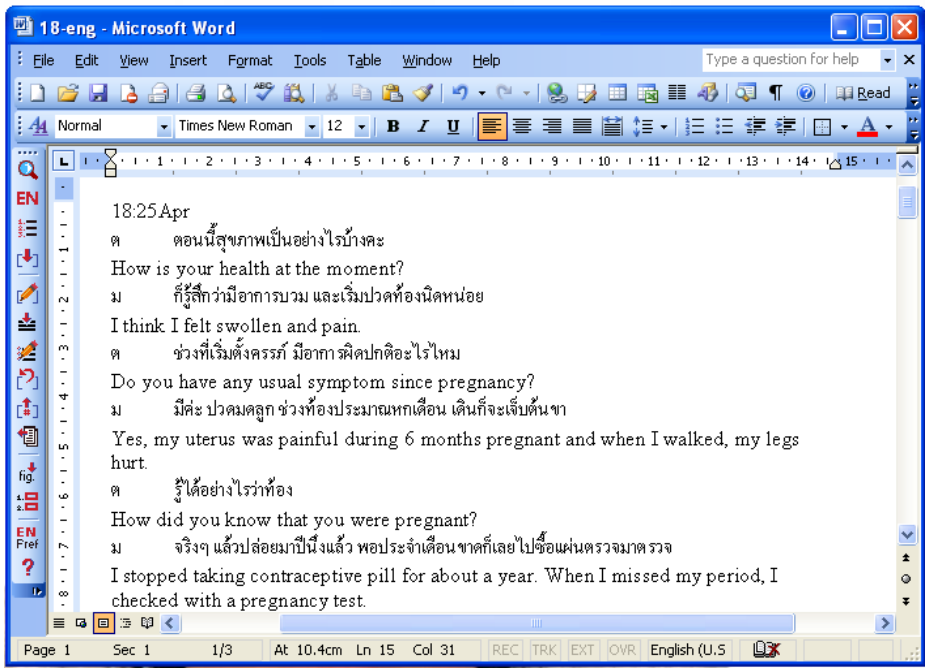
Digital audio recording was used in the interview process. It was more accurate and enabled the researcher to focus on the participant rather than note-taking to record the conversation between researcher and participants. All sound recordings were stored in electronic files under the number that set a link between audio and demographic details for easy identification of individual participants. Figure 4.2 presents the voice files of each participant on the computer screen. These files were saved in separate folders allocated to the pregnancy period (voice record1) and breastfeeding period (voice record2). All audio-recorded interviews were transcribed and typed up as word documents in standard Thai language under the specific number of the participant and the date of interview. Then the Thai transcriptions were translated into English language focusing on the meaning.

Figure 4.2: A computer screen shows the voice files of an individual participant.



In the process of translation, Thai colleagues in the University of Nottingham and I did the re-translation from Thai to English by individual translation. After that, we compared each English sentence to see the words and meanings, and then combined two English transcripts together. Figure 4.3 shows both Thai and English transcriptions in the word document screen. Two Thai students and I in the University of Nottingham, who came from Chiangmai, Thailand and understood the local dialect, checked the English transcripts by listening to five tape recordings of each pregnancy and breastfeeding, interviews, and compared the meaning and content between the Thai and the English texts. These processes indicated that the English texts were consistent with the Thai texts.

Figure 4.3: A computer screen displays the word processer document of an individual participant in both Thai and English language.



4.1.4.2 Data analysis process

Interpretative analysis expects to capture the quality and structure of experience of each participant. Therefore, the analysis process considered the insights of individual cases. This is recommended for the exploration and development of factors that might be quite specific to each case. There is a strong focus on identifying the nature of a specific phenomenon. The idiographic approach is often seen as a specific strength of qualitative research (Gibbs, 2007). The transcripts in this study were analysed and concentrated one by one, and step by step as follows (Pope, Ziebland, & Mays, 2000; Willig, 2001):

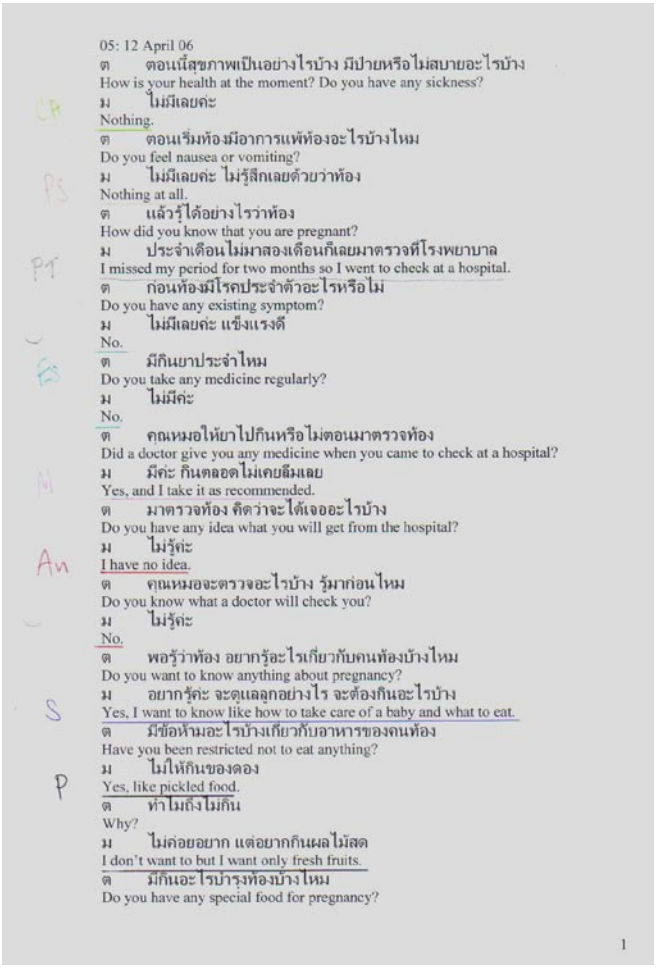
The first stage: Encounter with the text

As all the recordings were transcribed on a word processer, the researcher printed them out and started to consider the individual cases. The researcher read and re-read each transcript to understand all of the content. Transcripts were read against the audio records to check the accuracy of translation. After this stage, the researcher had familiarised herself with the data and began to identify the themes.

The second stage: Themes identification

The researcher worked through each sentence, then made a note in the left hand side of the text by abbreviation that could summarise the theme labels. Different coloured pens were used to underline the sentences representing each theme. At the same time, consideration was given to any inter-relationships that might exist between the themes. In Figures 4.4 and 4.5, they present sample papers from interviews which noted each theme by abbreviation, and a sample paper, which gave the details of each abbreviation, respectively.

Figure 4.4: Sample paper shows the coloured pens were used to underline the sentences and to note each theme by abbreviation in the left hand side of the text.



05: 12 April 06

ต ตอนนี้สุขภาพเป็นอย่างไรบ้าง มีป่วยหรือไม่สบายอะไรบ้าง
How is your health at the moment? Do you have any sickness?

ม ไม่มีเลยค่ะ
Nothing.

ต ตอนเริ่มท้องมีอาการแพ้ท้องอะไรบ้างไหม
Do you feel nausea or vomiting?

ม ไม่มีเลยค่ะ ไม่รู้สึกเลยด้วยว่าท้อง
Nothing at all.

ต แล้วรู้ได้อย่างไรว่าท้อง
How did you know that you are pregnant?

ม ประจำเดือนไม่มาสองเดือนก็เลยมาตรวจที่โรงพยาบาล
I missed my period for two months so I went to check at a hospital.

ต ก่อนท้องมีโรคประจำตัวอะไรหรือไม่
Do you have any existing symptom?

ม ไม่มีเลยค่ะ แข็งแรงดี
No.

ต มีกินยาประจำไหม
Do you take any medicine regularly?

ม ไม่มีค่ะ
No.

ต คุณหมอให้ยาไปกินหรือไม่ตอนมาตรวจท้อง
Did a doctor give you any medicine when you came to check at a hospital?

ม มีค่ะ กินตลอดไม่เคยลืมเลย
Yes, and I take it as recommended.

ต มาตรวจท้อง คิดว่าจะได้เจออะไรบ้าง
Do you have any idea what you will get from the hospital?

ม ไม่รู้ค่ะ
I have no idea.

ต คุณหมอจะตรวจอะไรบ้าง รู้มาก่อนไหม
Do you know what a doctor will check you?

ม ไม่รู้ค่ะ
No.

ต พอรู้ว่าท้อง อยากรู้อะไรเกี่ยวกับคนท้องบ้างไหม
Do you want to know anything about pregnancy?

ม อยากรู้ค่ะ จะดูแลลูกอย่างไร จะต้องกินอะไรบ้าง
Yes, I want to know like how to take care of a baby and what to eat.

ต มีข้อห้ามอะไรบ้างเกี่ยวกับอาหารของคนท้อง
Have you been restricted not to eat anything?

ม ไม่ให้กินของดอง
Yes, like pickled food.

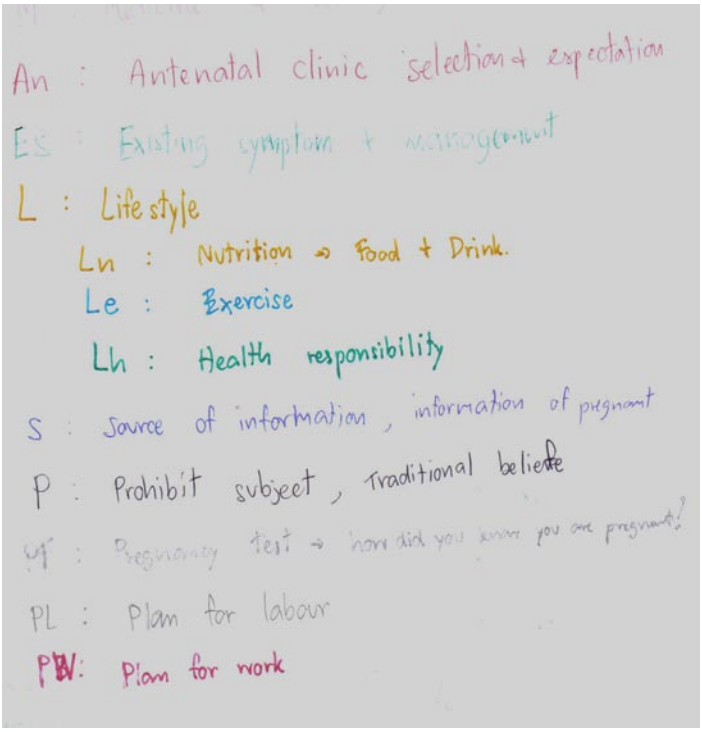
ต ทำไมถึงไม่กิน
Why?

ม ไม่ค่อยอยาก แต่อยากกินผลไม้สด
I don't want to but I want only fresh fruits.

ต มีกินอะไรบำรุงท้องบ้างไหม
Do you have any special food for pregnancy?

1

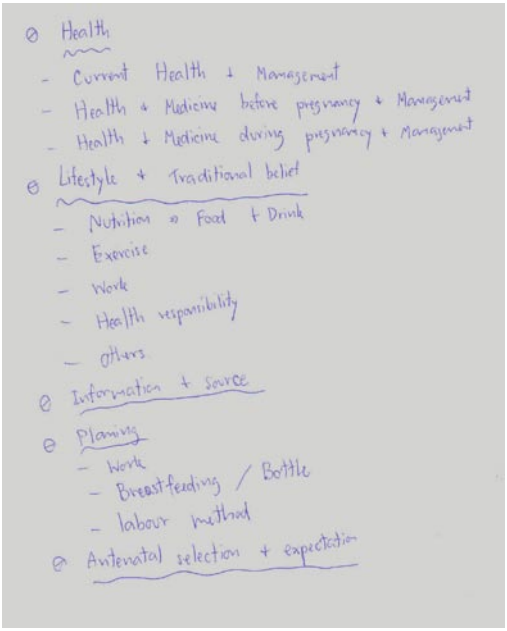
Figure 4.5: Sample paper to explain the abbreviation



The third stage: Grouping the themes

The researcher listed all of the themes from stage two and tried to merge them and integrate them into the group of themes to which they related. The paper with the groups of themes is shown in figure 4.6. Categorisation was established and included selection of illustrative quotations. The topic prompts were prepared and used in the interview processes to check the key points in each conversation. Furthermore, each prompt was considered to help set the groups of themes.

Figure 4.6: Sample of paper shows the groups of themes.



The fourth stage: Making the summary and interpretation

The researcher wrote the structured themes together with the quotations that demonstrated each theme. The researcher tried to consider only the themes that represented the experience of participants in the phenomenon. This means that some themes, which generated from stage two and three, have been excluded. In addition, quotations were considered in each transcript to present the findings in chapters 5 and 6.

Although time consuming, the manual process of analysis ensured that the data was considered step by step and the researcher could check the accuracy of participants' description or interpretation of transcripts. No computer package can notice a relationship between raw data or describe a suitable analysis structure. Using a manual technique, a researcher can analyse beyond the basic explanations and descriptions about the finding (Pope, Ziebland, & Mays, 2000). For confidentiality and anonymity, the real name of participants has been changed into popular Thai nicknames; Thai people commonly use nicknames in daily life.

4.2 Community pharmacists

The specific objective of this part of the study was to find out about current practices in providing advice and services in pharmacies regarding self-care in pregnancy and breastfeeding. The data was collected from community pharmacists throughout Chiangmai province, Thailand.

Quantitative research is a method used to convert data or information into numbers by using the tools such as questionnaires and other equipment to collect measurable data (Experiment Resources, 2009). It can be interpreted and the focus is on quantification in both data collection and analysis (Bryman, 2004). There are three main reasons for measurement in quantitative research.

1. Measurement allows the defining of fine differences between people in terms of the characteristics in each question.
2. Measurement gives a consistent instrument for making such distinctions.
3. Measurement provides the basis for more precise estimates of the degree of relationship between concepts

The survey method is most frequently used as a research design in quantitative research for finding out about situations and can be used to collect information on attitudes and behaviour (Mathers, Fox, & Hunn, 2000). It will collect the same information about all the cases in a sample and information items which are collected can be classified into three types; attributes or characteristics, behaviour, and opinions, beliefs or attitudes. In general, the objective of a survey is to collect standard information in respect of the same variables for everyone in the sample (Aldridge & Levine, 2001). Surveys can use a variety of methods to gather information such as questionnaires, face-to-face interviews, telephone interviews, and observation (Bryman, 2004).

A questionnaire is a form containing sets of questions and a common means of measuring attitudes and beliefs in health care research. It is one of the devices of population surveys (Gillham, 2000). Postal questionnaires are one of the main instruments for collecting data. The respondent completes and returns the questionnaire to the researcher: sometimes this is called a self-completion or a self-administered questionnaire (Bryman, 2004).

The advantages of self-completion questionnaires can be divided into five issues (Aldridge & Levine, 2001; Bryman, 2004). Firstly, the questionnaire survey was utilised as it is an appropriate method to collect information from a large population in a widespread area. Secondly, questionnaires can be distributed and returned within a particular time frame. Thirdly, the cost of producing and distributing questionnaires is low. Fourthly, it can reduce interviewer bias or effects. Previous literature reported that interviewers' characteristics may affect the answers that people give (Groves, 2004). In a postal questionnaire, respondents tend to feel free to answer each question without a researcher's observation; this may be especially important when answering sensitive questions. Finally, the questionnaires may be more convenient for respondents to answer the questions in their own time. There are, however, some disadvantages to the self-administered questionnaire, and these can also be split into four issues (Bryman, 2004). Firstly, there is a limitation in types and length of questions. Self-completion questionnaires need to be short and clear. It is also important to avoid asking open or complex questions because respondents are less likely to reply with an answer which is too long, requiring a long time to think about the answers. Secondly, it is impossible to have any control over who actually completes the postal questionnaires. Thirdly, missing data is likely to occur because no one is present to help or explain to respondents if they are having difficulty answering a question. It is also easier for respondents to skip some questions which can create the problem of missing data for analysis. Lastly, response rates will usually be underestimated. Low response rates are common with mailed questionnaires.

This study aimed to identify the views of community pharmacists about self-care in pregnancy and breastfeeding in Chiangmai. Chiangmai is the biggest city in the north of Thailand and has many pharmacies located in both rural and urban areas. Most community pharmacists who were the target of this study were asked to provide an ongoing service to their customers all day, everyday. Moreover, they had to report the services and indicate the name of medicines which they would give to pregnant and breastfeeding women, and express their attitude and views about self-care in these groups of women. Furthermore, the researcher is a registered pharmacist who works in the Faculty of Pharmacy, Chiangmai University. Most participant pharmacists have known the researcher as a lecturer and some of them were the researcher's students. Thanks to these seemingly favourable circumstances, a mailed questionnaire was selected as an appropriate instrument to collect data from community pharmacists for this part of the study.

The questionnaire was designed by using the basic services of community pharmacists in Thailand, for minor ailments and common symptoms in pregnant and breastfeeding women from the literature reviewed. Literature was selected by using the following criteria:

1. information related to healthy pregnancy and breastfeeding
2. focusing on self-treatment and self-prevention or health behaviours during pregnancy and breastfeeding
3. information about pharmacists and medicines related to self-care and self-medication

All information was merged to create a survey questionnaire. Two main types of questions were used in this questionnaire. Firstly, personal factual questions were used to ask the respondent to provide personal information such as age, education, income etc. Secondly, attitudinal questions about self-care in pregnancy and breastfeeding were asked by using a Likert scale. Five-point Likert scales were measured as ordinal level between "strongly agree" and "strongly disagree". These categories, which

respondents selected, have a rank order. Five out of nineteen statements were arranged as negatively-worded items to attenuate response pattern bias.

In the pilot study, six Thai pharmacists who had experience as community pharmacists in Thailand and who were also students at the University of Nottingham were invited to participate. They were required to read the questionnaire in both languages, to refine and comment about the layout, question translation and content as well as ease of completion.

As a result of the pilot study, some items which proved unclear and confusing were amended or excluded. Questions that seemed difficult to understand or were not answered became apparent. Poor instructions and layout that might be found confusing were revised and made more understandable. The final version of the English questionnaire was rechecked for ambiguity in discussion with supervisors. A cover letter was designed and checked to ensure that it clearly defined the objectives of the study. In Thailand, three lecturers in the Faculty of Pharmacy, Chiangmai University who work as part-time pharmacists in a community pharmacy were requested to complete the self-completion questionnaire in the Thai language. They were asked to consider the sequence of questions: consequently, some parts of the questions were improved.

4.2.1 Sample

Non-random sampling - opportunistic sampling – (Mathers *et al.*, 2000) was used in this part of the study. The respondents were selected from the list of pharmacy registration. The full postal names and addresses of the pharmacists were retrieved from the pharmacy registration list in 2006 from the Provincial Public Health Office, Chiangmai, Thailand. The names of the pharmacy owner and on-duty pharmacist, and the time period when the pharmacist was present in the pharmacy were also indicated in the registration documentation. All pharmacists in the list were considered for

recruitment in the study. On the other hand, the participant criteria of the study were arranged.

The views and experience of pharmacists who have recently worked in pharmacies was very important to reveal the real situation in terms of people's self-care. These pharmacists could explain and answer the questions by using their own current knowledge and their working experience. The main purpose of this project focuses on self-care in pregnant and breastfeeding women; these women may be a minor group of customers if compared with general customers. Therefore, pharmacists who can provide their views for this questionnaire needed to be those who worked and served their customers regularly. As a consequence, only community pharmacists who worked full-time or worked for at least 6 hours per day in Chiangmai province were chosen to take part in this study.

4.2.2 Data collection

A postal self-administered questionnaire survey was the approach used to collect data in the Thai language. Stamped addressed envelopes were enclosed for return of the completed questionnaires. The first mailing was sent at the beginning of April 2006 and a second mailing, a reminder, was posted at the beginning of June 2006. In total, the questionnaire was sent to 198 community pharmacists.

The questionnaire was based on the role of community pharmacist in self-care and self-medication. Community pharmacists were asked about their views and experiences about the self-care behaviours of pregnant and breastfeeding women. The questionnaire was initially written in English and translated into Thai for data collection. The questionnaire is divided into three parts:

> Part 1 Pharmacists' experiences about self-care behaviours of pregnant and breastfeeding women

Part 2 Pharmacists' views about self-care behaviours of pregnancy and breastfeeding

Part 3 General information about pharmacists

In part 1, questions were based on the current situation and experiences of pharmacists with pregnant or breastfeeding women in their pharmacy. The questions used in this first section were either open-ended or used ranking scales. Multiple choice questions and 5-point Likert scales were used in part 2 which measured about pharmacists' views. A tick-box menu was used to collect demographic information in part 3.

4.2.3 Ethical Approval

The English language version of the questionnaire was submitted and given ethical approval by the Centre for Pharmacy, Health and Society, School of Pharmacy, University of Nottingham, United Kingdom.

4.2.4 Data analysis

The questions were coded and analysed using the Statistical Package for Social Sciences (SPSS) version 13.0.1 for windows. Unanswered items were coded as missing data and were excluded from the analysis.

Frequency counts and percentages were used to present the demographic characteristics of pharmacists, the experiences and the services of pharmacists related to self-care in pregnancy and breastfeeding. About views of community pharmacists' data, 5-point Likert scales were used to measure as ordinal data for the evaluation of pharmacists' agreement in nineteen statements between 5-strongly agree and 1-strongly disagree. Reverse-scored technique was employed in five negative statements to reduce response pattern bias. Factor analysis was used to determine the number of dimensions and which items belonged to which dimensions, and Cronbach's alpha was measured for indicating internal consistency which was based on the average inter-item correlation. Pearson's Chi-squared test

and crosstabulation were used to examine the relationship between pharmacists' gender and the answers of two questions about contraindicated medicines for pregnant and breastfeeding women. For this analysis, p-value was less than 0.05 ($p<0.05$) was considered as the level of statistical significance.

4.3 Reliability and Validity

There is a general concern about reliability and validity of research (Long & Johnson, 2000). Reliability has been described as the consistency of a measuring instrument or dependability. Tests of reliability can be divided into three tests (Long & Johnson, 2000) that researcher can select as appropriate for each study.

- Stability means that consistent answers are produced when asking identical questions at different times.
- Consistency mentions the issue of integrity within an interview or data collection, so the answers of the respondent on a similar topic are similar to each other.
- Equivalence describes when the same answers occur when asking an alternative question with the same meaning during an interview.

Validity refers to truth or credibility (Long & Johnson, 2000; Silverman, 2000a). If the study can present clear interpretations and accurate reflection on the phenomena then the study has validity. The validity of research can be considered in three main aspects: content validity, criterion-related validity, and construct validity (Long & Johnson, 2000; Mays & Pope, 2000). Content validity is concerned about the accuracy of sampling, instrument construction, and finding. Criterion-related validity considers the correlation between the measured performance and actual performance. Construct validity considers instrument proximity to the construct in question.

Focusing on qualitative research, meaning in context of findings is very important. Therefore, the process of data interpretation must be concerned with accuracy and credibility (Willig, 2001). The assessment of research studies should consider the quality of the method used, accuracy of finding, and integrity of assumption or conclusion (Long & Johnson, 2000).

The assessment of qualitative study should be asked by using some questions as follows (Mays & Pope, 2000):

1. Worth or relevance: Was this study important enough to do and did it provide useful knowledge?
2. Research questions: Had this study clear research questions?
3. The question design: Was the method used very suitable for this study?
4. Context: Is the context or setting good enough to describe or to make it easily understood?
5. Sampling: Was the sample appropriate?
6. Data collection and analysis: Was the data collection and analysis a systematic process? Could other researchers repeat each stage by following an audit trail?
7. Reflexivity of the account: Did the study provide sufficient data for analysis evaluation?

In summary, the reliability or dependability in qualitative research is concerned with whether the data collection process has consistency and is free from other variations, which can affect the nature of the data. For interview data, the reliability can be increased by interviewers' training and by checking the interview guides or interview testing after the first interview (Flick, 2002). Ratcliff (1995) suggested that a researcher can find reliability by using a few methods: multiple viewings of video-tapes, multiple listening to audiotapes, and multiple transcriptions of audiotapes.

The validity of qualitative research can be evaluated in various ways. Triangulation of methods considers the comparison of the results between two or more different data collection methods or data sources. Respondent validation or member checking considers the stability of data from the different researchers. Clear exposition of methods of data collection and analysis can link to clearly defined concepts and sufficient data. Audit of the decision trail presents the detail of all data sources, collection techniques, assumption made, and interpretation of meaning to allow other readers to decide and judge the validity of study.

In the qualitative part of this study, the interviewer chose to collect data in local dialects. The researcher checked the reliability of the study in two processes of translation. Firstly, two persons translated texts from Thai to English, in each case by individual translation. Secondly, three people listened to recorded audio-tapes and checked the accuracy of meaning and translation. In addition, the data analysis and coding processes were conducted without knowledge or expectations of the researcher. For validity, this part selected the “audit trail” process for evaluation. The researcher tried to write a clear explanation in a step by step manner so that anyone can follow the trail and compare it with their own conclusions. Therefore, the researcher is confident that this study can be trusted to explain the real phenomena.

Considered in quantitative research, reliability refers to the consistency of a concept measurement. It is commonly evaluated in three forms: test-retest, alternative-form, and internal consistency (Carmines & Zeller, 1985; Litwin, 1995). Test-retest involves administering a test on one occasion and then re-administering it to the same sample on another occasion. Alternative-form requires two test forms with the same people. The internal consistency method requires a single test and provides a unique estimate of reliability for the given test. The calculation of the correlation will yield a known coefficient that varies between 0 (no correlation and no internal consistency) and 1 (perfect correlation and complete internal consistency).

Nowadays, Cronbach's alpha is the most common test for internal reliability for quantitative research (Bryman, 2004).

Validity in quantitative research focuses on the measuring device. It tries to prove that this device can measure what it is intended to measure. There are different types of measurement validity (Bryman, 2004; Litwin, 1995). Face validity might be established by asking other people whether the device seems to be getting at the concept. Content validity is decided by a panel of experts or experienced people who review whether a device does everything it should. Concurrent validity starts by setting a criterion which has the closest relationship with the test at the same point in time, and then finds the indicator to estimate the correlation between the test and the criterion. Predictive validity requires a future criterion measure which is correlated with the relevant measure.

In the quantitative part of this study, face and content validity of the questionnaires in both Thai and English languages were checked by six students at the University of Nottingham, United Kingdom and three lecturers in the Faculty of Pharmacy, Chiangmai University, Thailand who have an experienced community pharmacist in Thailand. Before the actual survey, two supervisors checked the content, scope, and flow of questions. During data analysis, internal consistency was measured to confirm the reliability of the questionnaire by using Cronbach's alpha.

Summary

Qualitative and quantitative methods were used in this study to explore self-care behaviours of women in pregnancy and breastfeeding periods, and to identify the pharmacists' views related to self-care in pregnancy and breastfeeding. Semi-structured interviews were the tool used to help the researcher to collect the interview data from women, while self-completed questionnaires were used to gather the data from community pharmacists. The pilot studies for this study occurred in Nottingham, United Kingdom and the fieldwork was completed in Chiangmai, Thailand. The translation

from English to Thai or Thai to English can be seen in this study. The timetable which was prepared for the process of data collection in the fieldwork is shown in table 4.5.

Table 4.5: All schedule for data collection processes both qualitative and quantitative methods in Chiangmai, Thailand

Subject	Date
1) Mailed the questionnaires to community pharmacists in Chiangmai province, Thailand	3rd-7th April 2006
2) Contacted the directors of four hospitals in Chiangmai province for permission to collect data	3rd-7th April 2006
3) Recruited the participants and start in depth interviews with pregnant women (the first interview)	3rd April-12th May 2006
4) Interviewed postpartum women (the second interview)	15th May 2006-30th June 2006
5) Collected completed questionnaires of community pharmacists and mailed reminder letter	1st -30th June 2006

CHAPTER 5
SELF-CARE ACTIVITIES DURING PREGNANCY

This chapter discusses the experiences of the childbearing women in their self-care strategies during and following their pregnancy. The individuals' views about self-care behaviours are explored to gain an understanding of culture-based self-care activities during pregnancy. This study aims to investigate self-care behaviours of women in Northern Thailand to maintain health and well-being, and to treat minor ailments which occur during pregnancy.

The chapter, first of all, describes the sample group of women who consented to participate. The next four sections discuss the four main themes that emerged from an analysis of the data. These four themes are health and medicines, lifestyle and traditional beliefs, information and source of support, and planning. The sub-themes that were clustered together to make up these four main themes are detailed in table 5.1.

Table 5.1: The main themes and sub-themes of pregnant women's views.

Themes of pregnancy
1. Health and medicines 1.1 Current health 1.2 Minor ailments 1.3 Medicines 2. Lifestyle and traditional beliefs 2.1 Food and drink 2.2 Exercise 2.3 Working 2.4 Traditional beliefs 3. Information and source of support 3.1 Sources of information 3.2 Antenatal care selection 4. Planning 4.1 Planning for delivery 4.2 Planning after delivery

5.1 General characteristics

The sample women were recruited by using four criteria. Firstly, women were first-time pregnant. Secondly, they were healthy and had no medical conditions before pregnancy. Thirdly, they were living in the Chiangmai province. Finally, they must have been more than 34-weeks pregnant and have shown an interest in breastfeeding their baby at the first interview. Recruitment and the first interviews took place at the antenatal clinics of four hospitals in Chiangmai province; Nakornping Hospital, Mother and Child Hospital (Health Promotion Centre Region 10), Maharaj Nakorn Chiangmai Hospital, and McCormick Hospital.

Forty-three pregnant women participated in the first interviews. The average age was 25.8 years (ranging from 17 to 37). Sixteen women (37.2%) had received up to secondary school level education, and twelve women (27.9%) had a Bachelor degree. The mean of family income monthly was 8,837.21 Thai Baht: min 4,000 and max 47,000 Thai Baht (55.19 Thai Baht = 1 British pound from www.exchange-rates.org 25/11/09). Most women were between 37 and 38 weeks pregnant (20.9% and 23.3%, respectively) at the first interview. The largest group (25.6%) were office workers of private companies before pregnancy. Details of participants are summarised in table 5.2.

Table 5.2: Characteristics of women participating in the study (N=43)

Characteristics	Number	Percent
Age (years)		
≤18	4	9.3
19-22	9	20.9
23-26	11	25.6
27-30	9	20.9
31-34	6	14.0
≥ 35	4	9.3
Education		
No formal education	4	9.3
Primary school	1	2.3
Secondary school	16	37.2
Vocational certificate	3	7.0
High vocational certificate	5	11.6
Bachelor degree	12	27.9
Higher than Bachelor degree	2	4.7
Family monthly income (Thai Baht)		
Less than 5,000	6	13.9
5,000-5,999	11	25.6
6,000-6,999	5	11.6
7,000-7,999	3	7.0
8,000-8,999	3	7.0
9,000-9,999	1	2.3
10,000-10,999	7	16.3
More than 10,999	7	16.3
Duration of pregnancy when accepted at first interview (weeks)		
34	3	7.0
35	5	11.6
36	6	14.0
37	9	20.9
38	10	23.3
39	3	7.0
40	7	16.3
Occupation before pregnancy		
Company office worker	11	25.6
Sales assistant in a shop or department store	9	20.9
Self-employed	8	18.6
Housewife	6	14.0
Government staff	4	9.3
Waitress	4	9.3
Student	1	2.3

5.2 Health and medicines

The first theme was related to pregnant women's health in terms of both pre-existing problems and current health. The health status and pregnancy experiences of women on the subject of health and use of medicines during their pregnancy are presented first as these could influence their self-care behaviours.

5.2.1 Current health

The attitude and feelings of women about their health at the time of enrolment in the study were discussed. Their pre-existing diseases or symptoms and the regular medicines which they used to take before becoming pregnant were also described.

Considering their current health, most women said that they felt fine and healthy at the time of the interview. Some women complained about uncomfortable symptoms during pregnancy especially the women who were nearly 40 weeks pregnant, but they tried to rest and ignore the symptoms.

"I feel healthy and well. Before being pregnant, I was always rather thin but now I have gained a lot of weight and enjoy eating. I definitely like it." [Oil]

"I feel fine and healthier since my pregnancy. I enjoy eating, and didn't have morning sickness at all. I got constipation sometimes but I think it is normal for pregnant woman." [Kay]

"I'm ok but I do have stomach pain and hardly sleep at night because my baby moves a lot. I fall asleep near dawn. I feel tired but I think it's normal for pregnancy." [Ae]

"Sometimes, I have some breathing difficulties and feel ill and weak. I have to bear these difficulties and try to exercise. I feel better after exercising." [Tai]

"My body aches and there is pain particularly around my waist. My feet are swollen at the moment. It might be because of gaining a lot of weight. I have put on seven kilos during this pregnancy." [Jang]

The majority of participants had a good attitude about their health while they were pregnant. The uncomfortable symptoms which had been described were mostly accepted as normal pregnancy symptoms. Women recognized these symptoms and tried to get on with them.

A few women had pre-existing symptoms and had to take medicines regularly before pregnancy. During pregnancy, they tried to avoid taking medicines and went to consult the doctor if they had any symptoms.

"I have asthma and I use an inhaler as needed. During my pregnancy, I have not had any attack at all so I haven't used any medicine. I look after myself very carefully." [Pu]

"I have a peptic ulcer. I took medicine regularly and took more when I had an episode (of ulcer attack). I stopped the medication when I knew I was pregnant. I try to be more careful of what I eat. For example, I try not to put vinegar in my noodle soups because it can lead to an ulcer attack." [Jang]

"I have a peptic ulcer. I take some medicines for relief of the stomach pain. They are antacid and painkillers. I received them from my doctor and the doctor said they are safe for me and my baby." [Ple]

The women's pre-existing diseases often seemed to resolve during their pregnancy. Self-care during pregnancy might have contributed to this. For example, women who had suffered from peptic ulcers were aware that their eating habits should change to take meals on time and eat more healthy food during pregnancy. As a result, their peptic ulcers had been better or seemed to disappear during pregnancy. In addition, most pregnant women accepted that they took care of their own health better than before pregnancy in terms of prevention or protection from any illness.

5.2.2 Minor ailments

When women were asked about minor ailments such as coughs or colds during their pregnancy, most women said they tended to consult their doctor rather than self-medicating. A few women said they would not take any medicines when pregnant, although they would so do when not pregnant.

"I got a cold developed a sore throat. I went to see the doctor. Actually, I like to buy medicines for myself, but during pregnancy I stopped this habit and went to see a doctor every time." [Dang]

"I had a cold so I took some medicines that the doctor gave me. Mostly, I buy medicines by myself, but since I was pregnant, I tend to go to see the doctor because I'm concerned about the effect of medicine on a baby." [Pu]

"I got a cold and developed a fever in the last 3 months. But again, I didn't take any medicines. I just drank lots of water and took more rest. I think the cold can relieve itself: I am afraid to take any medicines." [Kai]

"I had a cold and sore throat twice in the last 2-3 months, and I took only Strepsil for relief of the sore throat before seeing a doctor. I avoid buying medicines from the pharmacy by myself." [Wax]

"I got constipation quite often. I eat more fruits especially orange and papaya. I believe in the safety of the natural way rather than taking the medicines." [Tai]

The common symptoms of colds and sore throats were the minor ailments which most women reported. Women mentioned that they used to purchase medicines from the pharmacy before they became pregnant. Currently, they were concerned more about their health and safety, so if they became sick they consulted a doctor. Most women tended to use natural ways to relieve minor symptoms such as eating more fruit and vegetables for the relief of constipation, drinking plenty of water and taking more rest for the relief of

cold symptoms rather than taking medicines. There was no reference to seeking advice from the pharmacist: the doctor was identified as the person most able to advise on the safety of medications for minor ailments.

5.2.3 Medicines

When asked about what medicines they took at present, all the women said that they only took vitamins and supplements during pregnancy from the doctor. They believed these medicines could maintain or improve their health and well-being during pregnancy and have a positive effect on the health of their baby.

"My doctor prescribes ferrous supplement regularly for me since the beginning of pregnancy." [Jang]

"At the moment, I take vitamin and ferrous supplement every day which I received from my doctor." [Tai]

"I never forget to take the pregnancy supplement which my doctor prescribed. I thought it will help improve my health in pregnancy." [May]

Women reported that they mostly had suffered from pregnancy symptoms during the first trimester. A few women decided to consult and get medicine from their doctor while most of them ignored the symptoms and waited for them to disappear.

"I vomited a lot and sometime I feel dizzy and I can't eat anything in the first five months. I also have back and legs pain. I went to see a doctor and he suggested I should sleep on the left side, and use many pillows and blankets underneath my tummy." [Van]

"I got severe nausea and vomiting. Actually, I hardly ate anything for about a month, but I tried so hard to eat. I knew it wasn't good for the baby as well, if I didn't eat anything. Also, I had constipation. I tried to eat more fruits and vegetables. I avoided using the medicines." [Moo]

A fear of taking medicines during pregnancy was evident in nearly all of the women interviewed. The safety of the unborn baby was their first priority.

"I don't want to take any medicine without consulting doctor because it might have an effect on the baby." [Jang]

"I fear to take any medicine while I am pregnant because I think medicines might harm my baby." [Maew]

Regarding health and medicines, the majority of women felt well and healthy at the time of the interview. They mostly had a positive attitude about their health during pregnancy. Women always took better care of their own health to try to stay healthy and avoided taking medicines which might affect their baby's health. The safety of their unborn baby was their main concern. These findings are similar to other studies. For example, low-income pregnant women in South Eastern United States (Lewallen, 2004) indicated they were more aware of themselves both physically and emotionally than in the past. In a Jordanian study (Gharaibeh *et al*., 2005), pregnant women also scored highly on paying attention to their own health and seeking professional assistance about health if necessary.

The majority of women in this study refused to take medicines to relieve their symptoms. Moreover, they tended to see the doctor rather than use self-medication. In addition, their eating habits seemed to have changed particularly during pregnancy: as a result of this some symptoms related to eating, such as peptic ulcers, had stopped without taking medicines. An Australian study (Schneider, 2002) also described that pregnant women in the third trimester treated heartburn symptoms by eating small meals and eating their last meal of the day early rather than taking medicines. The lifestyle changes will be discussed more fully in the next theme: Lifestyle and traditional belief.

5.3 Lifestyle and traditional belief

This theme focused on lifestyle changes such as taking different food or drink, smoking and exercise. It also included attitudes towards working during pregnancy. Traditional beliefs were also presented in this theme because they tend to lead to behavioural changes in Thai women during pregnancy.

5.3.1 Food and Drink

In relation to food and drink, all women interviewed thought that it is important to have a healthy diet during pregnancy. Most women recognized that they should limit or avoid eating some kinds of food such as pickled foods, spicy foods, and also avoid alcoholic drinks. Some women said they must eat special things and must not eat some certain foods because older people have influenced them to think that these foods will affect the health of their baby or the delivery process in both positive and negative ways. Most of the women interviewed had moved to live with their mother or into their mother in-law's house during pregnancy, and mothers or mothers-in-law commonly prepared and cooked foods for pregnant women. Therefore the mother or mother in-law and other older people had a major influence on the food and drink consumed by pregnant women.

5.3.1.1 Recommended food and drink

Advice on diet in pregnancy was obtained by word of mouth from the older people especially mothers or mothers-in-law to the younger women. Food and drink mentioned in this theme were believed to improve the health of pregnant women and their unborn baby. In addition, women described some foods and drinks as being necessary to take close to the expected date of birth to help during the delivery process.

"I drink three glasses of milk everyday and eat three proper meals a day. I eat lots of fruits and vegetables- more than normal. I must drink milk though I never drank it before, and eat more seafood." [Yui]

"I do not eat anything special but I'm kind of eating more vegetables and fruits as well as drinking two glasses of milk everyday." [Gobb]

"I try to drink two glasses of milk everyday. I have to eat a vegetable named Puk Pung because it will help me to deliver more easily, and seafood helps to improve the health of a baby." [Nook]

"I rarely eat fruit before I was pregnant but now I need to eat it everyday, and I must drink milk at least 2 glasses per day." [Nu]

"I hardly drank any milk before but now I usually drink two glasses of special milk for pregnancy a day. I didn't eat fish in the past but now I have to eat it. I must eat more vegetables and fruits. I need to have three proper meals daily as well as snack breaks because I often feel hungry. I have to drink coconut juice everyday because it can help to reduce the fat accumulated on the baby's skin after delivery, and I eat curry containing a special vegetable called Puk Pung to help ease labour." [Kay]

"I try to drink at least two glasses of milk everyday - especially formulated milk for pregnancy. I eat a boiled egg everyday and also drink coconut juice every two to three days." [Jai]

"I eat a lot and more frequently. My mother-in-law suggests I should drink lots of coconut juice because it will help to ease the delivery, to eat something white so my baby will have whiter skin, and to eat plenty of vegetables and fruits so my baby will have thick hair." [Kai]

It can be seen that most pregnant women believed that they should drink at least two glasses of milk per day. They were encouraged to increase their intake of milk during pregnancy, particularly special milk for pregnant women. Generally, drinking milk is not the normal habit of Thai people particularly in adults. The milk companies promote their formulated

powder milk for pregnant women in television advertisements. Moreover, a few companies provide powder milk samples for pregnant women to drink and advertisement pamphlets which focus on the benefits of pregnancy formulated milk. This pregnancy milk can often be found in the antenatal clinic at hospitals.

Pregnant women tended to incorporate an increased amount of fruit and vegetables which were perceived to be healthy food. Seafood was also commonly mentioned in these findings as these women believed that it could help to improve their baby's health. A few previous studies support this finding about seafood. The study of Golding *et al*. (2009) concluded that omega-3 in seafood can provide relief from depression during pregnancy. In addition, the study by Hibbeln *et al*. (2007) revealed that high maternal seafood intake (more than 340gm per week) was associated with high development of their baby's brain. This increase in eating seafood is despite the fact that seafood is rare and costly in Chiangmai because of its location far away from the coast. Seafood is a main source of iodine. Iodine in pregnant women supports and develops cognitive functions in baby (Zimmermann, 2009). Iodine deficiency in Thailand is still a problem for some people especially in North and North-east areas. The study by Rajatanavin (2007) reported that the average iodine level in the Thai population was mild iodine deficiency compared with the WHO criteria, so an increase in iodine intake was recommended. This could account for the concern about seafood intake during pregnancy being expressed by most of the women interviewed.

After milk, the most important drink which was mentioned by pregnant women was coconut juice. They said that they must drink it during pregnancy, especially when nearing delivery. They believed that it was likely to make the delivery process easier and the baby would be born with less fat covering the skin. In fact, coconut juice contains lots of benefits, especially young coconut water. It has several electrolyte minerals which can prevent dehydration. It can be supported with the findings from

Malaysia study (Saat, Singh, Sirisinghe, & Nawawi, 2002). They compared the coconut water with carbohydrate-electrolyte beverage and plain water after exercise, and found that coconut water was sweeter, caused less nausea, fullness and no upset stomach, and could be used for rehydration. It also works as a diuretic which helps increase urine flow and has been shown to help reducing blood pressure (Alleyne, Roache, Thomas, & Shirley, 2005; Magat & Agustin, 1997) Although the women did not appear to know its actual benefits, it was appropriate for their elders to recommend it to them.

Puk Pung is a local vegetable which has been recommended to eat during pregnancy especially in Northern Thailand. The scientific name is Basella rubra Linn, which is also called “East Indian spinach”, “Malabar Nightshade”, “Indian spinach”, and “Ceylon spinach”. The leafy vegetable has a slippery texture because it is covered with mucous, leading women to believe that it will make their delivery process easier. This belief could be wise because the plant does have a mild laxative property (Plant Genetic Conservation Project, 2008). People are likely to use the leaves for cooking a sour soup which contains fish or pork, tomato, lime juice and tamarind paste, called “Kaeng Puk Pung”. The full taste of this soup could also help to increase pregnant women’s appetite. In the Philippines (Bureau of Plant Industry, 2007), this vegetable, called “Alugbati”, is recommended for pregnant women to cook to relieve constipation.

5.3.1.2 Prohibited food and drink

As well as foods which should be consumed in pregnancy the women described the types of foods and drinks that they should avoid. They believed that these foods and drinks can affect the health of either the pregnant women or the unborn baby. Most women indicated that they had changed their dietary habits or had stopped consuming some food and drink, because they were concerned about their safety and the effect on their baby’s health.

"I have changed my eating habits. I used to drink two cups of coffee a day but now I stopped it. Sometimes, I used to drink alcohol but now I have also stopped this." [Kay]

"I stopped drinking alcohol and coffee." [Yui]

"I stopped drinking alcohol and fizzy drinks during pregnancy. I have to drink milk and fruit juice instead." [Maew]

"A lot of changes happened to me. I need to be more careful and also people around are concerned about me. I have to stop drinking fizzy drinks which I used to drink regularly before pregnancy. It is bad for the baby." [Nu]

The majority of women indicated that alcohol, coffee, and fizzy drinks should be avoided during pregnancy. Most women had revealed that they stopped taking them during pregnancy, even though they used to take them regularly before pregnancy. Similarly, the Lewallen study (2004) reported that thirteen women, who admitted drinking alcohol before pregnancy, reported that they abstained from alcohol during their pregnancy. Some women revealed that they cut down the amount of caffeine consumptions as well. Crozier *et al.* (2009) also reported that women in their study had mostly changed their lifestyle since becoming pregnant, and there were significant reductions in alcohol and caffeine intakes during pregnancy.

Previous studies reported the effects of alcohol and caffeine consumption during pregnancy. The outcomes of alcoholism in the mother are Fetal Alcohol Syndrome (FAS) in their baby, and if pregnant women drink more than three glasses per week, this can increase the risk of spontaneous abortion (Hannigan & Armant, 2000; King & Fabro, 1983). Concerning caffeine during pregnancy, Weng *et al.* (2008) summarised that a high amount of caffeine consumption during pregnancy (more than 200mg daily) can lead to miscarriage, and was independent of pregnancy-related symptoms such as nausea and vomiting, so they suggested reducing caffeine intake during pregnancy. In addition, Care Study Group in the

United Kingdom (2008) also concluded that women during pregnancy should reduce caffeine consumption because it could increase the risk of fetal growth restriction, leading to low birth weight. The limitation of drinking coffee for women in pregnancy, lactation and during preparation to be pregnant, which was also suggested by Higdon and Frei (2006), was no more than three cups of coffee or 300mg of caffeine per day. Regarding the effects of fizzy drinks during pregnancy, no strong evidence can be found that it is harmful for a pregnant woman and her unborn baby. Many cola drinks, however, also contain caffeine and this may be the reason that they are avoided. The website of BabyCentre (2008) mentions fizzy drinks in the topic of wind and bloating in pregnancy. It explains that the carbon dioxide in fizzy drinks can increase the symptoms of wind and bloating in pregnancy, so this may be why pregnant women said that they avoided them.

Some normal vegetables and fruits were mentioned as harmful to the unborn baby or that they might affect the baby in negative ways and thus most women tried to avoid these foods.

"I have to stop eating spicy food because it might be harmful to my baby." [Kai]

"I have limited spicy and pickled foods because these may harm the baby." [Jang]

"I completely stop eating pickled food. I also refused to eat spicy food because it will stop the baby's hair growing. I'm not allowed to eat aubergine or banana flower because they can prolong my pregnancy and cause a difficult labour." [Nu]

"I don't eat Thai Aubergine because it will make a baby small and I don't eat banana flower because a baby will have a black or dull skin like the colour of the banana flower." [Yui]

"I stopped eating pickled food and changed to eat fresh fruits instead. I am not allowed to have shellfish because my baby will be more attached to me, like them." [Jai]

Women often claimed that spicy food would affect the baby's hair and health. The majority of women had reduced the spicy taste in normal dishes or had changed to plain flavours during pregnancy. Furthermore, most women believed that pickled foods were prohibited during pregnancy. Generally, pickled foods are easy to find everywhere throughout the country and popular to consume especially by women. These foods are produced by cutting vegetables or fruits in pieces and marinating them in vinegar or salt water for several days, and sometimes saccharine can be added as a catalyst and sweetener (Yoadyong, 1988). This process can produce a sour and strong taste in the vegetables and fruits. Currently, there is no evidence in scientific studies to confirm the harm to health of either a pregnant woman or her baby from spicy and pickled foods. The women's reluctance to consume them might be explained by the nature of these foods. Spicy food may increase the risk of heartburn symptoms, and pickled foods could provide too much salt which might increase blood pressure, and the process of fermentation in pickled foods could lead to bacteria and fungal infection which might cause diarrhoea or food poisoning.

Some vegetables and other foods had been prohibited as part of traditional beliefs because of their appearance such as colour and physical features. Most women revealed that they did not eat foods containing banana flowers. Apparently, they believe that the baby will be born with a dull skin colour, like the dull red colour of banana flowers. Furthermore, eating banana flowers or aubergines during pregnancy was mostly believed to prolong pregnancy or delay labour, and these flowers and vegetables would also cause tiny babies. The women also said that if they eat shellfish their delivery process would be difficult because the baby would be strongly attached inside the mother, as a shellfish is attached to its shell.

Most pregnant women mentioned that they previously consumed plenty of fresh fruits, but some fruits had been limited during pregnancy, such as watermelon and durian. They believed that watermelon could cause leg cramp because it is a cooling fruit, while durian could cause discomfort inside the body because it is a heating fruit.

"I normally like watermelon, but somebody told me that watermelon is a cold fruit. If I eat so many watermelons during pregnancy, it can increase the risk of leg cramp in the morning. Therefore, I limited myself in this." [May]

"I like durian fruit, but my grandmother told me not to eat it during pregnancy because it will cause a hot feeling inside your body, especially at night. I have to believe her and stop eating it." [Yai]

The aspect of Yin Yang foods or hot/cold foods from Chinese traditions still has an effect on Thai lifestyles, particularly dietary practice. They believed that too cold and too hot foods can affect people's health (Chang, 1974). This is the same as the traditional beliefs in India (Choudhry, 1997).

Watermelon is counted as "too cold" fruit, and they believe that it might harm pregnant women and their unborn baby, if too much of it was eaten. No proof of this, however, has been presented in previous research. Contrary to popular belief, several websites about pregnancy, such as fitpregnancy.com (Perkins, 2006), cafemom.com (Michele, 2009), mention the benefits of watermelon in pregnancy. For example, watermelon contains amounts of vitamin C, vitamin A, vitamin B6, potassium and magnesium which are very important for the baby's development in vision, brain, immune systems, etc, and it could help to counteract morning sickness and prevent muscle cramps in the third trimester of pregnancy. Moreover, it is rich in lycopene that works as an antioxidant substance to a greater extent than tomatoes. Sharma *et al*'s study (2003) found that lycopene can reduce the risk of pre-eclampsia by 50 percent.

Durian is known as “the king of fruit” in South East Asia. The main concern regarding durian in pregnancy is that it has a heating property which might harm the baby. Following on traditional beliefs, pregnant women should avoid eating durian because it can make the newborn baby too big and overweight, and might cause rough skin in the baby (2008). This belief is similar to a traditional belief which was reported in The Myanmar Times (Curtis & Cho, 2004). However, no scientific evidence can clearly confirm this belief.

5.3.2 Smoking

In Thai culture, smoking is commonly regarded as a bad habit especially in women. A few women admitted to having smoked in the past. Most of them stopped smoking straight away after finding out they were pregnant. Their main reason for stopping was to protect their baby.

“I stopped smoking. Sometimes, I felt very frustrated but I have to be patient. Normally, I have to smoke when I used the toilet, but I have stopped now.” [Gobb]

“I usually smoke a cigarette. When I found out that I was pregnant, I stopped smoking because I’m afraid of its effect on my baby. Sometimes, I feel annoyed and moody but I try to find something else to do to keep me busy.” [Toy]

In this study, women totally quit smoking when they knew that they were pregnant. This finding is same as the study of Gutierrez (1999) and Kost *et al*. (1998) in the United States. Similarly in Lewallen’s study (2004), twenty-four women mentioned quitting or cutting down on smoking during pregnancy, and three women said that they also tried to stay away from smoking areas. In addition, there was a significant reduction in smoking when women became pregnant in Southampton, United Kingdom (Crozier *et al*., 2009).

There is a large volume of research that agrees that smoking is harmful especially during pregnancy. The findings of previous research (Agrawal *et al.*, 2009; Kotimaa *et al.*, 2003; Langley, Holmans, Van den Bree, & Thapar, 2007; Langley, Rice, Van den Bree, & Thapar, 2005; Weissman, Warner, Wickramaratne, & Kandel, 1999; Williams *et al.*, 1998) showed that smoking tends to affect their baby in terms of low birth weight, preterm birth, mental health (Attention Deficit Hyperactivity Disorder:ADHD or hyperkinetic children), and low academic performance. On the other hand, passive smoking during pregnancy was found to have no significant relationship with preterm or low birth weight (Wdowiak, Wiktor, & Wdowiak, 2009).

5.3.3 Exercise

The women's responses about the need for exercise and rest were varied. Most women said walking and leg lifting were the two most popular exercises, and some women said that they do housework as an exercise. A few women used exercises to relieve some uncomfortable symptoms during pregnancy especially to reduce pain from leg cramp.

"I lifted my legs and arms, but I did exercise when I feel pain. Normally, I mostly walk for relaxation and exercise." [Van]

"I sometime do the exercise before going to bed. I lifted my legs to increase blood circulation. If I sit or sleep for a long time, I may have cramp so I have to move my legs to prevent this." [Oil]

"I just did some housework and a little bit of walking because the doctor told me that I need more rest. He said that I have low amniotic fluid, so he suggested lying down and taking more rest than normal." [Noi]

"I try to exercise following the recommendation of books and VCD, but I hardly did it because I felt tired quickly. I used to do routine running before pregnant, but I stopped since I was pregnant." [Jib]

The Thai National Statistical Office in 2004 (Ministry of Public Health, 2008) reported that 29.1% of Thai people took regular exercise, and it found that normally women exercised less than men. During pregnancy, women seem to decrease their physical activity, and take more rest and relaxation. This was despite the fact that most hospitals started to introduce exercise classes for pregnancy or to provide more information about prenatal exercise in the form of books, pamphlets, and videos which can be seen in the antenatal clinic's waiting area. Most pregnant women, particularly in late pregnancy, still refused to do the prenatal exercise, giving the reasons for this as including feeling really tired, unwell, or uncomfortable. This finding is similar to the research which was conducted in King Chulalongkorn Memorial Hospital, Bangkok, Thailand (Piravej & Saksirinukul, 2001). They found that 60% of the participating women had admitted that they did not do any exercise during pregnancy. In addition, some studies which were conducted in western countries (Clarke & Gross, 2004; Duncombe, Wertheim, Skouteris, Paxton, & Kelly, 2009; Evenson, Moos, Carrier, & Siega-Riz, 2009) indicated that women had decreased the amount and the intensity of their exercise during the course of their pregnancy, and said that symptoms such as tiredness, shortness of breath, musculoskeletal problems, and the complications of pregnancy are the main barrier to physical activity.

5.3.4 Working

At the time of the first interview, a few women had to change the type of work they did, in order to reduce stress and to allow more rest. Twelve women, however, still worked as normal until delivery. Five women had already started their maternity leave. Furthermore, twenty women had decided to leave their jobs and stay at home. They revealed that they had a problem continuing with their work for two reasons. Firstly, the job was not suitable for pregnant women, such as being a waitress. Secondly, it was hard and exhausting.

"I was a maid at a hotel, but I changed to telephone operator when I was two months pregnant. I feel better now, not so tired. I can continue in this job until I go into labour." [Yui]

"I worked in a Jewellery shop as a sales assistant. I have to stand all day. When I was working, I didn't have time for resting, which I think might have an effect on the baby. Therefore, I decided to quit the job." [Jang]

"I was a cashier in a nightclub. I quitted when I was 2 months pregnant. I just do some housework. I worked in a factory for two months after I quitted my cashier job. I had to quit that because, again, it was quite a hard-working job. I'm so tired." [Gobb]

"I have been working in a photocopy shop, but I stopped when I was 6 months pregnant because I worry that the light from a photocopy machine will do any harm to my baby." [Nok]

Standing all day, or performing work which was physically tiring, were the most common complaints about work. Some women, however, were concerned about the health of their unborn baby. There is, nevertheless, no evidence that use of a photocopier has any harmful effects on either a pregnant women or her unborn baby, and articles on parental advice websites make this clear (Eliott, 2009). Most women tended to reduce the activities at work and in their house as similar to Argentinian women (Nigenda *et al.*, 2003).

5.3.5 Traditional beliefs

The majority of women adopt traditional beliefs in caring for themselves during pregnancy and preparing for their baby. Traditional beliefs especially during pregnancy are very important in Thai culture, and older people have a major influence on transferring these beliefs to the younger generation. Pregnant women are required to do many things and to avoid other things. Thai people believe that these behaviours can affect the health of both the mother and the baby in the future, or that some practices will

help the process of delivery. Some behaviours are perceived to bring bad luck for both them and their baby. Three practices are most frequently mentioned including: preparing things for the baby before birth, washing and cleaning the pregnant woman's body, and specific prohibited actions.

5.3.5.1 Preparing things for baby

Pregnant women cannot prepare things for a baby in advance. They had been told that it may bring bad luck for both them and their baby.

"I prepare to buy things for a baby just in my mind, and only jotted down what I need because it is considered bad luck to buy these things before labour. I think it's more like a tradition. Moreover, I can buy the necessities from the hospital." [Jang]

"Do not prepare baby's articles beforehand or, if you have already prepared them, you have to keep them away from your house." [Nok]

The advance preparation for the baby was widely mentioned as a strictly prohibited rule. In the past, the mortality rate of babies was very high as a result of the poor quality of medical technology. The delivery process usually occurred in the woman's home among the family aided by the local midwifery practice called "*Mor tum yea*". Consequently, if a pregnant woman prepared everything for her baby and the delivery process was not successful and the baby died, this woman would be particularly upset especially at the sight of the baby clothes etc. Therefore, older people suggest that preparation and collection of baby items should be done after the birth. This is a belief which is transferred completely to the next generation by word of mouth. No proof of evidence was shown in previous reports.

5.3.5.2 Shower and shampoo

The tradition is said to be very strict about when pregnant women should take a shower and shampoo.

"Do not take a shower late at night because this will increase amniotic fluid." [Kai]

"I have to live with my mum so I have been warned not to take a shower late. I have to put eggshells from a new-born chick in my bathing water everyday when I was 8 months pregnant and I also put sacred palm leaf in it, and then boiled it in water. While the water was boiling, my mum said her charm spells and stirred it. I have to use this water for both shower and shampoo." [Toy]

"I use sacred water to wash my hair and body, mostly on a holy day. The temple has a religious ceremony on this day and makes sacred water. Moreover, I have to put the special leaf, named Puk Pung, into my bathing water and use this water for washing my body once a week. It is believed that this will help to ease labour and I need to use it when nearly at my due date or about two months before labour." [Pu]

"I have to put Puk Pung in my bathing water by make it into a circle shape and passing that circle all the way through from head to toe because this will help to ease the delivery. I also use a sacred lotus flower from a Buddhist temple for soaking in my bathing water during the two months before labour. Moreover, I am only allowed to take a shower just before the sunset." [Kay]

When the women were asked about the reason of these beliefs, they could not give it. Nevertheless, they tried to follow these prohibitions without arguing. From the findings, the timing of the shower and shampoo was widely mentioned. In the past, the nature of local houses was to have a separate bathroom outside of the house, so people had to walk outside to take a shower. For safety reasons, it was suggested that during pregnancy women should clean themselves early, i.e. before sunset. *Puk Pung* or lotus flowers from a temple were indicated to use in the process of showering and shampooing. The benefit of this belief is that it might help the labour process and provide good luck to pregnant women.

5.3.5.3 Prohibited behaviours

Some behaviour was prohibited for pregnant women for different reasons especially attending funerals and gossiping.

"Do not go to a funeral because it will make a baby very vulnerable." [Yui]

"The elderly people told me that if I want to go to a funeral, I need to attach a brooch at the tummy area to protect my baby." [Tokta]

"Do not go to a funeral: if you need to go, you have to wear a big brooch at the tummy area but I don't know why." [Pra]

"Do not go to ceremonies including funeral and propitious ceremonies because the host will not like it and pregnant women are called Mae Man which means evil mother." [Pu]

Pregnant women were forbidden to attend some special ceremonies. Hiding behind this belief may in fact protect the mental health of pregnant women. For example, the surroundings of a funeral project great sadness which can affect the emotion of women during pregnancy. Moreover, the process of each event took a very long time to finish, so pregnant women who joined the event might become uncomfortable. At favourable events such as weddings, pregnant women were also prohibited to attend, because the meaning of pregnant women in the local language, "evil mother", will bring bad luck to the host. Actually, this might be more concerned with the safety of pregnant women in travelling to attend each event because most Thai people used motorcycles as their main form of transportation – clearly a danger for pregnant women.

"Do not scold gossip or blame other people: this will go back to your baby." [Kookai]

"Do not speak any words with endings such as Plaay because it can cause your baby to have an extra organ." [Kay]

There is also concern about what pregnant women might talk about. In the last quote, it was further explored but did not offer a clear explanation about the reason. The overall findings in this study, however, show that women during pregnancy were forced to speak positively and avoid talking about negative things. This might be in order to help them to think about good things which can support their mental health.

In conclusion, it can be seen that most women tended to accept the traditional beliefs and practices during their pregnancy and follow the older generation without always seeking a clear explanation for them. Many of these activities are not actually harmful to the pregnant women or their baby. In fact, they result in protection of pregnant women and concern regarding their physical and mental health.

5.4. Information and source of support

5.4.1 Source of information

It was evident that Thai pregnant women were receiving information and support from a number of different people. The information was sought, as accurate information and good support are needed for women during pregnancy especially women with their first pregnancy.

"I will ask my mum: for instance when I had rash, my mum told me that this rash will disappear during labour as well as the swelling in my feet. Sometimes, I also ask a doctor during my appointment. I have the chance to see the video in hospital and I got a handbook about pregnancy from the nurses. I also get information from my friends et al. who have had pregnancy experience before." [Jang]

"Mostly, I talk with experienced people such as my mom, mother-in-law, relatives, et al. to see whether there is something wrong with my condition or not." [Pra]

Generally, it was found that pregnant women receive an informative pregnancy handbook when they come for their first antenatal check-up.

While waiting for the check-up at the clinic, pregnant women can access books, magazines and videos containing important information provided by the hospital. In addition, Thai women mostly move to live with their parents or sometimes their in-laws especially in the last trimester, so their parents can give advice and help their daughter solve any problems. Experienced persons especially mothers and mothers-in-law were indicated as an important source for women during pregnancy, which is similar to a finding in Warren's study (2005).

When asked about people who supported them, most women had their mother and husband to help and to look after them.

"*My husband helps me to do some cooking, washing up, and some housework.*" [Jang]

"*My husband and my mum are very concerned about me and the baby. My husband helps me with the housework and comes with me to every antenatal appointment. My mum and mother-in-law are ready to take care of my baby.*" [Noi]

5.4.2 Antenatal selection and services

Antenatal services are very important for pregnant women to check on their health and the baby's health, so women have to select the antenatal clinic which is in the best place for themselves. They also have to go to this place for all appointments until labour. Most women selected the hospital which was covered by their health insurance. Expectation and the reasons for selection of the antenatal clinic were also revealed in this theme.

"*I chose this hospital because it is covered by my medical insurance. I don't know anything about an antenatal clinic, but I think my baby will be in safe hands.*" [Koy]

"*My colleagues at work recommended this hospital for me and I will get a full refund. My mum told me that I will be examined and checked, and so will the condition of the baby in an antenatal clinic.*" [Jai]

"Actually, I wanted to use 30-baht hospital and I thought I could use it with this hospital, but it needed a referral document. Therefore, I changed my mind and I will pay them by myself. Moreover, this hospital is close to my mum's office and convenient to me." [Ting]

Generally, the majority of Thai people have to pay for their services. Consequently, most women were more concerned about budget and finances in selecting the hospital that they can best afford.

When asked about the attitude of the people providing the antenatal services, most women felt it was good and said they benefited from the antenatal services while some women felt the services were bad, and felt annoyed. The pattern of appointments is firstly every one and a half months, then it increases to every month, every fortnight, and every week until delivery.

"Sometimes, I think the antenatal appointment is so frequent it annoys me. Actually, it will be good for me because I will know how the baby is doing." [Maew]

"I think the antenatal appointment causes a problem with my time at work because it's too frequent. Anyway, I have to come regularly as doctor's appointment." [Moo]

"I think it is a part of my responsibility because I want me and my baby to be healthy. Therefore, I have to keep every appointment." [Pra]

Although some of the women found the appointments too frequent, they still attended regularly. They did not, however, ask the hospital staff whether the practices advocated by their mother were appropriate or not.

5.5.Planning after delivery

Women were asked about their plan for delivery and after delivery. Natural birth was selected by most participants. Although some women who have a health condition cannot give birth naturally, they still preferred to give birth

naturally. They thought that giving birth in a natural way could give them the feeling of real motherhood.

"Actually, I wanted to give birth naturally but I have a problem about my pelvic bone, so I have to have a caesarean." [Kai]

"I am afraid to have a caesarean, so I want to give birth naturally. I also thought that a normal birth will make me realise what my parents have been through." [Noi]

All women had decided to choose breastfeeding for their baby because they knew breast milk is definitely better than artificial milk. Some women wanted to look after their baby until their baby reaches school age, and then they will find a job, whilst some women will return to work soon and must leave the baby with its grandmother. Thai regulation allows only 90 days for maternity leave and does not allow for paternity leave.

"I plan to breastfeed my baby and continue as long as the baby can take it. According to the guidelines, the baby should be breastfed until 6 months but this could increase up to one year depending on an individual's breast milk." [Yai]

"I think breast milk is the best for a baby. I will breastfeed for one year. I think this will enhance the baby's development and if you do not breastfeed your baby, you will feel breast tenderness and pain. Therefore, it would be better if my baby can suckle at my breast rather than express it to the bottle." [Jang]

"I will be breastfeeding if I can because I think breast milk is the best for a baby. I think I will express and store my breast milk in a fridge when I return to work. If the breast milk is not enough, I will give the baby instant formulated milk. My mum will help me to look after my baby." [Nuch]

"I will breastfeed for one year but while I'm at work I will pump my milk into a bottle. My workplace allows me leave for 45 days and after that

I will go back to work. My mum will help me to take care of the baby while I'm working." [Pu]

The women who participated in these interviews were mainly convinced that they would have a normal birth in hospital, and would breastfeed for as long as possible.

Summary

The majority of pregnant women tended to change their eating and drinking habits and to adopt activities that they thought could make them and their baby healthy. They tried to look after themselves very carefully and consulted their doctor rather than self-medicating. Thai traditions had an influence on pregnant women especially when women were staying with their parents or parents-in-law. There were good reasons why some activities were prohibited, but some activities were prohibited without reasons and depended on the level of individual belief. The pregnant women all hoped to breastfeed their baby. Experienced people especially mothers and mothers in-law were the most important sources of advice for pregnant women when they were seeking information regarding pregnancy including antenatal selection, but the traditional practices handed down by their mothers still had an important role in their self-care beliefs.

CHAPTER 6
SELF-CARE ACTIVITIES DURING BREASTFEEDING

This chapter focuses on breastfeeding mothers' self-care activities for the first month following their delivery. This part of the study explores how they maintained their health and well-being and treated minor ailments.

The women who participated in the study were interviewed mainly in their own homes. The chapter first of all provides details about the participants, and then the four main themes are presented in detail. The quotations from the interview transcripts reflect the reality of women's attitudes and behaviours in each section.

Four main themes were identified in these findings: health and medicines, lifestyle, information and source of support, and planning. These themes are combined sub-themes to explain women's behaviours and beliefs during the breastfeeding period regarding health and self-care. Table 6.1 presents the details of sub-themes in each theme.

Table 6.1: The main themes and sub-themes of women's views during breastfeeding

Themes of breastfeeding
1. Health and medicines 1.1 General health problems 1.2 Health problems related to breastfeeding 1.3 Medicines 1.4 Baby's health problems 2. Lifestyles 2.1 Food and drink 2.2 Daily lifestyles 3. Information and source of support 4. Planning

6.1 Information about women who took part in second interview

Forty-three women consented to take part in the first interview. At one month after delivery, thirty-five women agreed to continue participation and take part in a second interview, while eight women refused the second interview. The reasons for eight women dropping out from the second interview were: one woman's husband did not want her to be interviewed again; two women moved to another province; two women were difficult to contact after delivery; and three women were not available for interview in the time period for interviews.

Twenty-five women gave birth naturally while ten women needed a caesarean section. Women with a normal delivery and with a caesarean

section mostly stayed in a hospital for three days (64%) and five days (50%), respectively. The duration of stay in hospital for maternity care is presented in table 6.2.

Table 6.2: Duration of stay in hospital after giving birth by normal labour and caesarean section.

Duration for stayed in hospital (days)	Method of delivery	
	Normal birth (N=25)	Caesarean (N=10)
Two	4 (16%)	-
Three	16 (64%)	1 (10%)
Four	2 (8%)	1 (10%)
Five	2 (8%)	5 (50%)
Seven	-	2 (20%)
More than ten days	1 (4%)	1 (10%)

Focusing on the situation of breastfeeding during the second interview at one month after delivery, only eighteen women still breastfed exclusively, whilst three women stopped breastfeeding permanently and used bottle-feeding instead. In addition, mixed methods of feeding were chosen by fourteen women; eleven women fed their baby mainly by breastfeeding and added bottle-feeding sometimes, and three women primarily used bottle-feeding more than breastfeeding.

6.2 Health and medicines

This theme focuses on the women's and baby's health problems following delivery. Women described health problems in both the mother and the baby including how they solved the problems. In addition, the problems related to breastfeeding were discussed. Some self-care activities were indicated to resolve some health problems, whilst health professionals' advice was also mentioned to treat some symptoms. Medicines, especially herbal medicines, were mentioned by women to help improve their health after giving birth.

6.2.1 General health problems

After delivery, most women were concerned about the safety of their baby, if they were taking medication while breastfeeding. Therefore, if they had a health problem, they tried initially to select the best way to relieve their symptoms without medicine. Most women mentioned that self-care activities were the safest methods for mothers and their baby. Some women, however, took professional advice about treating their symptoms.

6.2.1.1 Using self-care activities

In this study, constipation was the main problem for women after delivery. Most women tried to solve this by themselves without medication. Drinking plenty of water and eating more fruits and vegetables were selected to relieve their symptoms. They refused to take laxatives even if they had been prescribed by the doctor.

"I became constipated: I could not pass stools for the first ten days. I still have difficulty in passing stools and go to the toilet every three or four days – which was not the way it was before. I didn't take any relief medication because I realised that eating only dried fruit was probably causing the problem. I also had difficulty in drinking enough water." [Jang]

"I also got constipation, but I didn't want to take the medicines which the doctor gave me because I was afraid that my baby would receive the medicine as well. I tried to drink plenty of water and eat a lot of fruit such as oranges and pineapples." [Fern]

A few women complained about abdominal pain after labour. An elastic band or long baby napkins were used to support and relieve uncomfortable symptoms instead of support pants.

"I made a support band for myself by knotting baby napkins and kept it tight around my belly to keep it in position. I did not use support

pants because they made me very hot and uncomfortable while sitting on the floor." [Tokta]

"I had an abdominal pain. It was uncomfortable, especially while walking. I used an elastic band for support, making it quite tight to meet my tummy in position." [Noi]

6.2.1.2 Using health professionals advice

The advice of health professionals, such as pharmacists and doctors, was still important for women during breastfeeding.

"After the delivery, I had diarrhoea: white, sticky mucus came out and I needed the toilet frequently but few stools appeared. I had a stomach pain. I went to the pharmacy and described my symptoms, and the fact that I was breastfeeding. The pharmacist gave me rehydration sachets and antacid." [Nook]

"I developed a rash over my whole body. I decided to consult the doctor at the clinic. I told him that I was breastfeeding, and he dispensed topical allergy cream for me." [Fern]

Self-care activities were used to relieve those symptoms which women thought were normal after delivery such as constipation and abdominal pain, and which would soon resolve. Other symptoms, such as diarrhoea, rash, were very uncomfortable for women, and probably required treatment by medicines; hence most women sought advice from health professionals. Pharmacy and clinic were mentioned as the places they went to for this advice.

6.2.2 Health problems related to breastfeeding

Normal problems about breastfeeding were cracked nipples or sore nipples, and engorgement. Most women had these problems, but they relieved the symptoms without medicines. Sometimes women tried to solve their

problems by taking the advice of health professionals or experienced people such as mothers.

"I had to massage my breast to reduce pain when it was engorged. I also developed cracked nipples. I applied only my breast milk after my baby had finished suckling. It was painful, but I didn't want to use nipple cream; I just let it go." [Nook]

"I developed engorgement and very tender breasts. It was very difficult for the baby to suckle. My mum suggested using a normal hair comb and brushed the tender area. My breasts became less hard and my breast milk flowed easily." [Moo]

"In the first period after delivery, I didn't produce any breast milk. My baby sucked my breast very hard, so my nipples cracked and became painful. I went to the breastfeeding clinic, where the nurse suggested massage and using hot water to cover it. Once my breast milk started to flow, the problem was gone." [Om]

After delivery, most women usually encountered problems or uncomfortable symptoms of their breast while breastfeeding. Self-care practices were mainly selected to relieve the symptoms such as breast massage and covering the breast with a hot wet towel. Even though nipple cream was widely advertised, most women still used their breast milk to apply to their nipple after breastfeeding. An article about medicinal use of breast milk by Heskin (2009) on a women's website suggests breast milk can be used as a healing agent for topical symptoms such as cuts and scratches, rashes, especially nappy rashes. The article suggests that when breast milk is applied to the affected area, healing of the area was very fast and effective. The suggestions of experienced people can be very important for breastfeeding mothers, especially the advice of their own mother.

The breastfeeding problems were also linked to the women's decision whether to continue breastfeeding or not. Three women, who participated in the second interview, decided to give up breastfeeding permanently for different reasons. The first woman mentioned she had short nipples and a lack of breast milk. The second woman said her baby had refused to suck her breast and after that the breast milk disappeared. The third woman said her breast milk made her baby ill.

"I have short nipples. In the hospital, the nurse helped me by using a syringe to feed my baby. I tried to force my baby to suckle at my breast but it was difficult because I had such short nipples and was producing very little milk. I tried pumping with the machine, but there was even less milk then. Anyway, I gave him the breast every time my milk came because I knew my milk was best. Finally, I decided to give up breastfeeding and use bottle feed instead." [Maew]

"My baby did not take to suckling at my breast because he was used to bottle feeding since he was born. During the three days in hospital, the nurse fed him from a bottle all the time. When we came home, I had to try to force him to suckle at my breast. If he was in a good mood, he would suckle. If he was hungry, he rejected my breast so I had to give him the bottle milk. I tried pumping my milk with the machine when I became engorged. After two weeks, my milk disappeared so I had to bottle feed him." [Nu]

"When my baby was 14 days old, I needed to go back to hospital. My baby had watery diarrhoea which came out with every farting. He also cried a lot, so I decided to take him to see a doctor. The doctor suggested staying in a hospital for three days, and gave him some medication. Once we got back home, he started to have diarrhoea again. I went to see a doctor at a clinic this time. The doctor said I needed to stop breastfeeding: my baby had a severe bacterial infection in his stomach and had to take antibiotics. When taking the bottle milk, he was better. My mum told me to test my breast milk to see whether it was bad or not by putting my milk into

a glass of water. If it floated, it meant that the milk was rotten and it turned out that my breast milk was rotten. This result made me decide to give up breastfeeding permanently. It's a shame. My baby only suckled at my breast for two weeks." [Jang]

These three women solved their problems by ceasing breastfeeding permanently. The first and second cases could be considered to be about the technique of breastfeeding practices. From the reasons which were revealed, advice and support from health professionals could have helped to resolve their problems, and these women would be able to increase the duration of breastfeeding. If health professionals were initially concerned about the problems and provided good support, breastfeeding might be continued. This suggestion is supported by Cullen and Fraser's study (2003). They stated that both initiation and continuation of breastfeeding could be influenced by appropriate support and advice from health professionals such as a midwife, lactation consultant, or breastfeeding counsellor.

In the third case, the baby had shown symptoms of watery diarrhoea after consuming the mother's milk, so the mother thought that her milk was unhealthy ("rotten") and she decided to stop breastfeeding. Some articles (Eiger & Olds, 1999; Vonlanthen, 1998) mention diarrhoea in exclusively breastfed babies. It can occur because of lactose intolerance and some allergic reactions which might have passed into the mother's milk. Some protein particles from a mother's foods can be transferred to the baby by breast milk, and it causes diarrhoea in the baby. In this case, the type of foods which the mother consumed should be the main concern, and health professionals could provide appropriate suggestions about the foods to the mother instead of advising her to stop breastfeeding, as the solution to this problem. Moreover, there is no evidence to suggest that breast milk that comes directly from mother's breast can go rancid.

6.2.3 Medicines

When asked about which medicines the women took after delivery, most women said that they only took ferrous tablets (black tablet) for their blood and paracetamol for pain. These medicines were prescribed from their doctor before discharge from hospital.

"I took some black tablets and pain killer tablets a few days after delivery. My doctor prescribed these medicines for me." [Nok]

Most women believed the herbal medicines were safe. Consequently, some herbal medicines were selected to help them recover quickly and to increase breast milk.

"I took some local herbal medicines to help get rid of some vaginal fluid from my body, and to increase my breast milk. I took two spoonfuls three times a day before food. After that, I felt hot inside my body, and I produced more breast milk than before. I took them everyday for about one month. My mom bought these medicines from a local pharmacy." [Puang]

"I took Ya-Hom which is local herbal medicine to prevent the allergy from food smell. My mum also bought liquid herbal medicine for me from the pharmacy to help get rid of some vaginal fluid from my body, but it contains alcohol so I rejected it. I thought alcohol could transfer to my baby in the breastfeed and it would harm my baby." [Tong]

"I bought the herbal medicines, called "Ya-Hom", from the pharmacy. It helped to increase my blood circulation and prevent the allergy from food smell." [Ae]

Some traditional medicines were mentioned to aid recovery and to increase breast milk. During the interview, a bottle of herbal medicine used was shown to the researcher by some of the women. On the medicine labels, information had been printed in the Thai language, which indicated the details of ingredients and indications for use. Most ingredients came from herbs, and the indications and instructions were not presented very clearly.

These medicines can be found in pharmacies especially old-fashioned or traditional pharmacies. There is no evidence in the literature to confirm whether these medicines have benefits or can harm postnatal women. The odour of these medicines, however, led the researcher to believe that they might contain alcohol as a solvent. Although the effects of alcohol on a nursing infant are not stated clearly, women should be aware of the dangers of taking alcohol while breastfeeding and would be recommended to wait for complete alcohol clearance from their body before breast feeding the baby (Koren, 2002).

Ya-Hom, the most famous Thai folk medicine, has been used for a long time. It is in powder form and contains a mixture of herbs with aromatic oils. It is sold in the market with different compositions and proportions of medicinal plants under different trade names. The effect of Ya-Hom in humans is to increase mean blood pressure and to decrease the pulse (Suvitayavat *et al.*, 2005). As a result, Thai people take Ya-Hom for the treatment of fainting. Moreover, some aromatic oils in Ya-Hom such as cinnamon, menthol, camphor can stimulate the respiratory system as an inhalant which makes people feel refreshed (Wuttitammavet, 2004). There is no evidence in the literature regarding any harmful effects of Ya-Hom in either breastfeeding mothers or babies.

6.2.4 Baby's health problems

On the subject of their baby's health, some symptoms occurred in most babies and women tried to solve these problems in different ways. The common symptoms which were mentioned by women were hiccups, and white tongue.

"When my baby had hiccups, my parents-in-law suggested putting the cotton wool in the water and putting it down at the centre of baby's forehead. However, I knew this symptom could relieve itself." [Kay]

"My baby got hiccups quite often. I tried to get her drinking water. If the hiccups still persisted, my mum blew the middle of baby's head two to

three times and then the hiccups stopped. I also saw my baby's tongue was white, so I used white gauze with water and cleaned her tongue during her bath." [Nu]

"I applied to my baby's tongue a baby napkin which was freshly wet from baby urine twice a day, when my baby got white tongue. If my baby got the hiccups, my grandmother had to blow his head, and sometimes she put a Betle leaf on the middle of his forehead before blowing." [Tok]

Most women used traditional practices to solve these problems. These practices had been handed down from older generations such as their mothers, and grandmothers. Some women did not strongly believe in traditional treatments or activities, but they did not think they could reject advice from the older women. As in the Thai tradition, younger people always respect and do not argue with the older generations, so women have to accept their advice and comply. It can be seen that some practices are not harmful to the baby such as blowing on the baby's forehead to relieve hiccups, and cleaning the baby's white tongue by using white gauze with clean water. Using baby's wet urine napkin to clean the baby's white tongue, however, is not an appropriate treatment, as it is not very hygienic.

A herbal medicine, "Mahahing", was found to be popular to prevent and relieve abdominal bloating or an upset stomach in a baby. All of the women mentioned applying it around their baby's navel after bathing the baby.

"I applied Mahahing around my baby's belly button after taking a bath to prevent the abdominal bloating. My baby got a rash around her neck, so I went to see the doctor and got some cream to apply." [Nu]

I applied Mahahing on the baby's belly when he ate too much milk and had a tender belly." [Tok]

Mahahing or Asafetida Tincture is a homeopathic medicine for flatulence, and it is suggested as a medical product in the Thailand household remedy drug lists. In a few websites (Answers.com; Oyster Food and Culture.com), Asafetida was described as a resin extract with a strong odour. It is used for

cooking and aiding digestion in some countries such as India and Iran. In Thailand, the powder is used by mixing with alcohol or water tincture to smear on the baby's stomach to relieve stomach ache.

6.3 Lifestyles after giving birth

This theme discusses the lifestyle changes which the women made following the birth of their baby, including eating behaviours (food and drink) and daily habits such as showers and shampoos. Traditional beliefs were described around these activities with or without explanations.

In Thai tradition, around one month after delivery is called "Yu-duan or Yu-Fai" period. It means "resting with fire". Women in this period are restricted regarding lifestyle, daily activities especially showers and shampoos, food, and drink (Liamputtong, 2004). All women who participated in this study indicated that they had been through this restrictive period. Most women revealed that their duration of Yu-duan period varied depended on their baby's gender.

"In the Yu-duan period, if I had a baby girl, I would have to stay for one month and two days to increase the brain of the baby, but if I had a baby boy I would have to stay only 25 days." [Nok]

"I had stayed in during the Yu-duan period around 25 days because I had a baby boy. If my baby had been a girl, this period would be about 32-33 days." [Tokta]

The period after delivery, Yu-duan, was mentioned as an important period for all women. Thai women believed that if they did not practise the traditional behaviours properly in the Yu-duan period, they would have some illness in the future (Liamputtong *et al.*, 2004). Similar to other countries, the restricted practices of women after delivery and the duration of the confinement period were stated to protect the mother and the baby. Women from India (Choudhry, 1997) believed that 40 days after giving birth is a vulnerable period for them. They must be assisted in their

personal care and follow a special diet, and their movements were restricted to their house. Turkish and Iranian cultures (Ozsoy & Katabi, 2008) believe that fertility is highly valued. Within the 40 days after birth, women have to follow the traditional practices strictly to protect themselves and the newborn baby from diseases.

6.3.1 Food and drink

In this section, all women described the food and drink which they had consumed during the month after giving birth or the Yu-duan period. Most women stated that their mother or grandmother prepared the special foods and recommended them to eat these foods. The main reasons to eat them were to recover their health and to increase their breast milk. On the other hand, women were prohibited from eating some foods because they were told that they would pass harmful substances on to their baby in the breast milk. There was a general belief among the women that everything that breastfeeding women eat and drink can pass from the breast milk to the baby.

"During the ten days after delivery, I had to eat only roast pork with rice. After that, I started to eat normal food because this is the first child: if this had been my second child, I would have to eat only roast pork, pork cracker, and not eat curry dish or any vegetables." [Maew]

"During the Yu-duan period, I had to eat rice with plain food, no strong taste foods and no spicy foods. I would not eat fish, fruits, or meat because I am afraid to cause my wound to itch. I could drink only warm water, but not too much." [Om]

"I cannot eat spicy food, meat, or ducks' egg, but I can eat hens' egg. I would not eat soup or watery food. It must be dried food only. AfterI had finished my meals, I must wait for a while before drinking water. Someone told me that all drink can go to my breast milk. In the Yu-duan period, I actually cannot eat any fruits because it can cause diarrhoea in the baby. I have to eat Kaeng Blee or Kaeng Liang once a week to increase

my breast milk. When I ate it, my breast milk came heavily and it wet my top. I drink a glass of milk sometimes, but not as often as during my pregnancy." [Noi]

Consumption and avoidance of certain foods were mostly mentioned by the women in the study during the postpartum period. They had been allowed to eat only plain tasting foods that meant not adding any sauces to their food. They always ate dried food such as rice with roast pork or pork crackers. It was a very strict regime at the beginning of a period for about 10-15 days, and then green cabbage boiled with salt was added to their meal.

Two special foods, Kaeng Blee and Kaeng Liang, were also introduced to help to increase production of the breast milk. They are the lanna style foods of Northern Thailand. Kaeng Blee is a banana flower curry with pork and tomato. Kaeng Liang is a versatile soup mixed with many kinds of vegetables. Both dishes have a pleasant taste and smell, so they will increase women's appetite.

Pork and egg were allowed to be eaten as protein, while other meats are strongly prohibited to breastfeeding women. In general, Thai people believe that pork is the only type of meat which is considered as safe to eat, whilst meat – especially buffalo meat – is regarded as toxic for mothers (Kaewsarn *et al*., 2003b).

It can be seen that the restriction of food and drink in Yu-duan period is likely to cause some health problems. Eating only dried food and limiting the intake of fruit and vegetables could lead to constipation in women. Moreover, limiting the intake of water could cause dehydration, which might lead to the production of less breast milk.

At the time of the second interview, all of the women had totally finished the restriction period as an interview would not have been allowed during this period. Most women mentioned that their diets had changed after the

Yu-duan period. They were allowed to eat and drink a greater variety of food. Women who were still breastfeeding, however, had to continue to avoid some strong tasting foods such as sour and spicy foods.

"After the Yu-duan period, I started to eat pork and chicken as normal, but I still could not eat meat because my mum said that my wound inside still would not heal properly. I still cannot eat mang: raw mango can cause my baby diarrhoea but ripe mango can cause bloating in the baby. I have to avoid sour and pickled fruits. My mum told that I have to eat like this until I stop breastfeeding." [Kai]

"After one month, I started to eat chicken and plenty of vegetables. I still have to avoid spicy foods and pickled foods because my wound inside still isn't healed properly. I drink only warm water to help increase my breast milk." [Jib]

"After the Yu-duan period, I can eat more types of foods. I will eat oranges which should be sweet rather than sour. I start to eat boiled vegetable with salt sometimes. I still avoid some spicy foods because I breastfeed my baby. I have to drink warm ginger water to increase my breast milk. " [Ting]

Although breastfeeding women were allowed to eat and drink nearly normally after the Yu-duan period, they still had to avoid particular foods such as spicy and pickled foods which might be excreted in their breast milk and affect their baby's health. Drinking warm water or ginger water was encouraged to increase the flow of breast milk. They were allowed to eat more of some vegetables and fruits which are not strong tasting especially those with a sour flavour such as raw mango. As a result, most women reported that their health had returned to normal and some symptoms especially constipation were now relieved.

A balanced diet is recommend for breastfeeding mothers (The Food Standards Agency, 2002). Breastfeeding women must eat a variety of foods such as plenty of fruits and vegetables, plenty of fibre, more sources of

protein especially from fish. Plenty of water including pure fruit juice is also recommend especially in hot weather to avoid dehydration. The quality of foods which mothers eat affects the quality of breast milk. Therefore, promotion about healthy food for breastfeeding mothers should be considered.

6.3.2 Daily lifestyle

All women claimed that their lifestyles totally changed after delivery, and talked about the limitation of daily activities which occurred immediately after discharge from hospital. During the Yu-duan period, all women had to stay inside their room and keep their window closed. They were not allowed to do anything such as housework, they were only allowed to look after their baby.

"During the Yu-duan period, I didn't do anything, only look after my baby. I cannot do the washing of my clothes or my baby clothes at all: my husband had to wash them for me. I had to keep myself in the room which did not allow opening windows which would expose me to wind. It was so hot sometimes, but I was allowed to have a fan at low speed and the wind did not directly blow on me." [Fern]

"During my Yu-duan period, about 28 days, I could not do any type of housework. I only breastfed and took care of my baby, with such as bathing. I was allowed to go out of my room only for the toilet. Actually, the old tradition did not allow using a fan, but I could not tolerate that because I got very hot and developed a skin rash. I opened the fan and turned it to the wall, so it did not blow directly on to me or my baby." [Van]

The limitation of movements in new mothers, and keeping them inside their room, are similar to the beliefs of women in India (Choudhry, 1997), Turkey and Iran (Ozsoy & Katabi, 2008). These beliefs are basically to keep the new mother warm during the period. They believe that women lost a lot of blood during the birth process, so the body of women will be in a

cold state. Moreover, all women indicated that they were forced to wear winter clothes. The clothes must cover their body to keep them warm and protect their body from wind at all the times even during very hot weather.

"*I must wear long sleeves to cover my body during Yu-duan period, but sometimes it was very hot so I changed to short sleeves. If the weather is cooler, I must wear long sleeves, long trousers, socks, and a warm hat."* [Pook]

"*I have to put burned coals near me twice a day for four days. I also have to wear winter coats, socks, warm hat, and a long sarong."* [Ae]

Furthermore, the traditional beliefs also restricted women about the use of shampoo and showers during the Yu-duan period. All women described the restrictions regarding showers and shampooing their hair after birth. Although Thailand is a hot country, most women still mentioned that they have to avoid taking showers and shampooing their hair for a while or that they must use warm water to clean their body if necessary. Herbs or leaves were mentioned to put in the bath water. Most women did not know the reasons they had to use these leaves, but said that they have to use them as recommended by the older generation.

"*I needed to sit on Bai Pao, to wear winter clothes, socks and a warm hat. I also could not wash my hair for about a month. Moreover, I have to bath in traditionally medicinal water. This water consisted of hemp roots and stems which had been boiled in water. I didn't know why I have to use it, but I did it because my mum prepared it for me."* [Nook]

"*I can't shower and shampoo during the 15 days after delivery. On day 16, I started to take a bath and shampoo with the traditional herbal water which contained Bai Pao, curcumin, Pu-laey boiled in water. I believed my mum that it will benefit my body after using it."* [Koy]

"*In 28 days, I had worn long sleeves, warm hat, socks and long sarong. I didn't have a shower until two weeks after delivery and then started to shower every day with herbal water, but I didn't shampoo for 28*

days. The herbal water contained dried flowers, Bai Pao, and Sa-Pao-Lom tied with rope and boiled in water. I didn't ask the reason, but I think harmless for me." [May]

The second interviews were conducted in April which is the hottest month in Thailand: the temperature had reached 38-40 degree Celsius. All women described the daily activities that were necessary to keep their body warm. In particular, they must stay in a closed room and wear winter clothes, and showers and shampoos were avoided at particular times. In addition, some herbal leafs were mentioned for adding to the water for showers and shampoos but the women did not know why. Bai Pao is a northern herbal leaf; Pu-Laey is a leaf called Pai or Zingiber purpuruem; and Sa-Pao-Lom is a northern herbal ancient leaf in Thailand. The indication of these leaves for postpartum women was unclear; however, women believed that they might gain some benefits or prevent some diseases in the future after using them.

In the sense of personal hygiene, the limitation of showering and shampooing hair after giving birth in a hot country should be considered. Some symptoms, such as fungal infections and bacterial infections, might occur to both mother and baby caused by the insanitary conditions. It is essential that breastfeeding mothers should take good care of their personal hygiene, especially the breast, to prevent the spread of diseases (Tait, 2000).

Most women believed that the wind can cause ill-health (Muecke, 1979). They believed that the wind can affect their health in the future if they are exposed directly to the wind during the Yu-duan period. Wind illness is not recognised by professionals in contemporary medicine, however, it was observed to be widely believed by Northern Thai women. Wind illness was thought to vary in severity and symptoms which can be divided into three stages.

Stage 1 Common minor problems: cramps, running eyes, muscle aches, and transient headaches.

Stage 2 Acute or chronic disturbances: swollen joints, fainting, breathing difficulty, cardiac palpitations, cold hands and feet, dizziness, and sharp pain at the waist or back of neck

Stage 3 Severe acute or chronic episodes: paralysis, loss of consciousness, grand mal seizures, and sensory impairment

Thai tradition believes that postpartum women are very likely to be affected by wind illness called as "*lom phit duan*" this means wrong menstrual wind illness (Muecke, 1979). This illness is caused only during the first month after women have delivered a live-born baby. It can happen when these women smell a bad odour, eat the wrong food, or use cold water for showering and shampooing their hair. The reason for this belief is that women have lost blood during the delivery process, so their body has been put into a dangerous state of humoral disequilibrium and might be easily aggravated by irritants such as cold, odours, and strong tastes. The signs and symptoms of wrong menstrual wind illness are thought to occur from ten to thirty years after the postpartum period.

6.4 Information and sources of support

This section indicates the sources of information and support which women described after giving birth. Most women said that their hospital provided practice nurses to show them how to look after their newborn baby and to support breastfeeding, for example, how to take a bath and use a cloth nappy for the baby, how to massage their breast and express breast milk. Furthermore, women who gave birth in public hospitals received a new mother and baby pack which was provided by the Thai government. This pack contains baby toys and an information book for the mother. The support from relatives and family at home, however, was mentioned in the interviews as the most important information source. Mothers or mothers-

in-law mainly gave support, and helped the women with many issues that they encountered, by using their experiences.

"During the three days in hospital, the nurse advised me on many things such as bathing the baby and how to prepare cloth nappies, the suitable positions for breastfeeding and how to express my breast milk. When I feel discomfort at home, I always ask my mum and my grandmother about my symptoms." [Moo]

"I got many leaflets from the hospital including a baby pack. I can find answers from them. During the four days in hospital, the nurse taught me about breastfeeding and taking a bath. At home, I got my mum and my sister to help look after my baby." [Pra]

Most women reported that they moved to stay with mothers or mothers-in-law after discharge from hospital. They felt secure and gained plenty of support from experienced people. The information book which was received from hospital was mainly used as an important source for solving problems after birth. Nurses were mainly mentioned as supporting and educating women about the care for mother and baby during the hospital stay. The women indicated that the information they had received was very useful to help them to deal with their baby and minor uncomfortable conditions especially of their breast and nipple. This finding is similar to Warren's study (2005) which found the important sources of support for first-time mothers were nurses and women's mothers.

6.5 Planning

This topic presents the women's expectation of breastfeeding, how they were planning to wean their baby on to solid food, and discusses the issues about going back to work after giving birth.

Focusing on breastfeeding expectations, eighteen women who were exclusively breastfeeding were asked to talk about breastfeeding duration. Eleven women expected to breastfeed their baby for as long as the baby

needed it, six women had decided to stop breastfeeding after one year, three women said they would try to breastfeed until 6 months, and only two women had decided to continue breastfeeding for 3 months.

"I will breastfeed my baby as long as my milk flows. I know it is a good thing for my baby." [Pook]

"I have maternity leave period of only three months, so I have only two months from now. After I go back to work, I will stop my breast milk during the daytime, but I will feed the baby with my milk at night. In the daytime, I will try to express my milk and keep it in the fridge. If my breast milk isn't enough, I will introduce powdered milk." [Van]

The most common reason which women gave for stopping breastfeeding was returning to work or school. This study found working women have difficulty to continue breastfeeding after return to work: this is a similar finding to that from Kaewsarn's study (2000). It is also similar to Yimyam and Morrow's study (1999), which was also conducted in Chiangmai, Thailand. Their results found that breastfeeding rates remained high for the early postnatal period, and then they dropped dramatically because women returned to work outside their home. In addition, Thailand's low rate of exclusive breastfeeding came from rapid socioeconomic development. It can be seen that the number of mothers who work outside the home have increased rapidly in recent years, so exclusive breastfeeding has been difficult to continue (Keenapan, 2008).

Considering working after delivery, most participants said they would return to work in 3-6 months. Women who are on maternity leave were allowed to stay at home and look after their baby for a maximum 45 to 90 days. Most women said that they would leave their baby with their mother, when they returned to work.

When asked about time to start weaning the baby, twenty-five women expected to wean their baby after three to six months, but a few women had started giving solid food to their baby before one month of age.

"I started giving solid food to my baby at twenty days of age with ground banana. I gave him this once each day, but now it is increased to twice a day. Some people told me that I can give solid food to my baby straight after birth, but I am worried about indigestion problems. My mum also told me that I should give solid food to my baby because I cannot spend more money on baby milk powder. My baby is very hungry; he can drink a 700g box of milk powder in 10 days." [Maew]

"My baby started to eat banana since nearly a month because my breast milk can not make him sleep long enough. At the moment, he eats twice a day." [Kookai]

"At the moment, my baby is starting to eat solid food such as ground rice, ground banana, and orange juice. It makes him sleep longer than drinking only milk." [Tong]

According to the WHO and UNICEF (World Health Organization, 2003), Thailand adopted the recommendation about exclusive breastfeeding for the first six months. This means that only breast milk should be fed to babies and no other food or liquid - even water - is needed during the first six months of age. Complementary foods with adequate nutrition should be introduced to all infants over six months and be continued alongside breast milk for up to two years of age. Nevertheless, some women in this study revealed that they had already introduced other food supplements for their babies at the time of the second interviews. The main reason for this was a concern that their baby seemed to be hungry, so they thought that milk alone did not satisfy their baby. In White's study (2009), early weaning after four months of age was commonly found: the main reason mentioned was that the baby was ready for solid food.

Following the weaning guidelines (UNICEF, 2007), the digestive system of the baby before six months is not developed sufficiently to digest solid foods, and solid foods can increase the risks of infections and allergies. Therefore, early weaning of infants should be avoided. Moreover, the short

length of breastfeeding could affect the hunger of the baby. The baby should be allowed to suck each breast long enough to receive the fattier hindmilk as well as thirst-quenching foremilk, and this pattern will regulate a baby's appetite (Inch, 2006). Consequently, information about the length and duration of breastfeeding and when to wean their babies onto solid foods should be provided widely to new mothers to solve the problems discussed above and to prolong exclusive breastfeeding in Thailand.

Summary

Most breastfeeding women tried to solve their health problems without taking medicines. They were mainly concerned about the safety of their baby. Self-care activities were considered as safe methods to treat some common ailments for mothers and their baby, whilst seeking advice from health professionals was required to treat the more severe symptoms. Herbal medicines were mentioned widely and used to improve health and treat some symptoms for mothers and their baby. Traditional beliefs still have a very strong influence on women after giving birth: all the participating women said that they must observe the Yu-duan period of around one month. There are many restrictive rules during this period such as staying in a room with closed windows, wearing winter clothes, and restrictions regarding showering and shampooing hair, and the intake of some types of foods and drinks. Women's mothers have a very important role in Thai society to support the women and to help them look after their baby. The information and knowledge about breastfeeding and preparing new mothers provided by the hospital was said to be particularly useful for new mothers with their first child.

CHAPTER 7

SELF-CARE VIEWS OF COMMUNITY PHARMACISTS

This chapter presents the results of a quantitative survey of community pharmacists in Chiangmai Thailand. They were asked for their views and experiences about the self-care behaviour of pregnant and breastfeeding women. In total, the questionnaire was sent to 198 community pharmacists, who worked full-time or at least 6 hours per day in any of the 385 registered pharmacies in 2006, throughout Chiangmai province, Thailand. One hundred and ten completed questionnaires were returned, and the response rate was 56%.

7.1 Community pharmacists' characteristics

The respondents were 50% male and 50% female. The mean age was 37 years and for most of them (84%) their highest education was a Bachelor degree in Pharmacy. The minimum and maximum lengths for community pharmacists' experience were 6 months and 45 years, respectively. 45% of pharmacists or their partners had experience of pregnancy whilst 42% had experience of breastfeeding. Most participants worked in a stand-alone pharmacy and most of the pharmacy locations were near the market and the community or village. Table 7.1 shows the demographic characteristics of respondents in this study.

Table 7.1: Demographic characteristics (n=110)

Demographic characteristics	Number	Percent
Age (Year old)		
20-29	35	32
30-39	42	38
40-49	15	14
50-59	12	11
≥ 60	6	5
Duration of experience (Year)		
Less than 3	34	31
3-6	27	24
7-10	24	22
More than 10	25	23
Highest Education		
Bachelor degree in Pharmacy	93	84
Higher degree in other subjects	12	11
Higher degree in Pharmacy	5	5
Pregnancy experience		
No experience	60	55
With experience	50	45
Breastfeeding experience		
No experience	64	58
With experience	46	42
Type of Pharmacy		
Stand alone	94	85
Chain store	15	14
Franchise store	1	1
Location of Pharmacy		
Near the market	46	42
Near the community or village	37	34
In the department store	11	10
Near the school, College or University	9	8
Near the hospital	7	6

7.2 The services for pregnant and breastfeeding women

The mean number of pregnant women and breastfeeding women who visited the pharmacy per week was 2.42 and 2.24 respectively (Max-Min 20-0, 25-0 respectively). Similarly to the study done in Nebraska (Schrempp *et al.*, 2001), where pharmacists revealed that they provided advice for pregnant and breastfeeding women an average of 2.8 times per week. These groups of women seem to be in a minority who request services from community pharmacists. People who participated in the study done by Hammond *et al.* (2004) indicated that they were more likely to visit a doctor than a pharmacist with the symptoms that occurred during pregnancy and lactation. Likewise, it might reflect the raised concerns regarding self-medication in pregnant and breastfeeding women.

About products for support breastfeeding, most participating pharmacists (75%) reported that they sell breastfeeding supporting products. Breast pumps were available for sale to breastfeeding women in most pharmacies. The other products which pharmacists sell are shown in table 7.2.

Table 7.2 Products for sale to breastfeeding women (choose more than one) (N=83)

Type of product	Number	Percent
Breast pumps	76	64.9
Nipple cream	18	15.4
Nipple shields	12	10.3
Breast pads	11	9.4

In terms of the provision of information for women, only 24% have information leaflets or brochures to promote health for pregnancy and breastfeeding, and most of these were supported by the pharmaceutical industry. Table 7.3 shows the available information and the source of leaflets or brochures to promote health for pregnant and breastfeeding women.

Table 7.3 The available information and the source of leaflets or brochures (N=110)

Available information	Number	Percent
No leaflets or brochures	84	76.4
Have leaflets or brochures	26	23.6
The source of leaflets or brochures (choose more than one)		
Pharmaceutical industry	15	53.6
Make themselves	8	28.6
Provincial Public Health Office	4	14.3
Faculty of Pharmacy, Chiangmai University	1	3.5

Community pharmacists were asked to report the pregnancy and breastfeeding services most frequently provided in a particular order. The three services that were the most commonly provided for pregnant women were diagnosis of symptoms and dispensing medicines; recommending vitamins and supplements; and referral to a doctor. The two services most regularly offered to breastfeeding women were symptom diagnosis and medicine dispensing, and contraception advice. Almost two-thirds of pharmacists reported that women mentioned breastfeeding their babies before asking about services for themselves. This practice corresponds to the suggestion of pharmacists in Rhode Island, USA that mothers should mention about breastfeeding to pharmacists rather than pharmacists have to ask them about it (Ronai *et al*., 2009). Asking customers about pregnancy and breastfeeding might cause offense. In addition, it might be argued these women are likely to be concerned about themselves and their

babies, so they are likely to mention their situation before receiving any services.

Furthermore, pharmacists stated the symptoms about which both pregnant and breastfeeding women had most frequently consulted them in the past. They cited that pregnant women most frequently consulted them about common cold and morning sickness (nausea and vomiting), while breastfeeding women most frequently consulted them about symptoms of the common cold.

The common cold is a mild upper respiratory illness and usually a self-limited illness (Erebara, Bozzo, Einarson, & Koren, 2008; Heikkinen & Järvinen, 2003). Most people categorised the common cold as a minor ailment the symptoms of which can be relieved by using self-medication, so they tended to purchase over-the-counter medicines for these symptoms from a pharmacy (Boardman, Lewis, Croft, Trinder, & Rajaratnam, 2005). Nevertheless, they also revealed that they preferred to get their advice directly from pharmacists before purchasing medicines (Albarran & Zapata, 2008; Wilbur *et al*., 2010). It is not therefore surprising that the common cold was reported by the pharmacists in the current study as a symptom which pregnant and breastfeeding women most frequently consulted them.

The responding pharmacists were also asked about the services that they usually provided for 15 common symptoms for pregnant women and 10 common symptoms for breastfeeding women. They were required to select from three options for each symptom: dispense medicine, provide advice only, and refer to a doctor. If the pharmacists chose to give out medicines, they were asked to state which were the most frequently dispensed. The results were described in three parts: common minor ailments, specific pregnancy symptoms, and specific breastfeeding symptoms.

7.2.1 Common minor ailments in pregnancy and breastfeeding

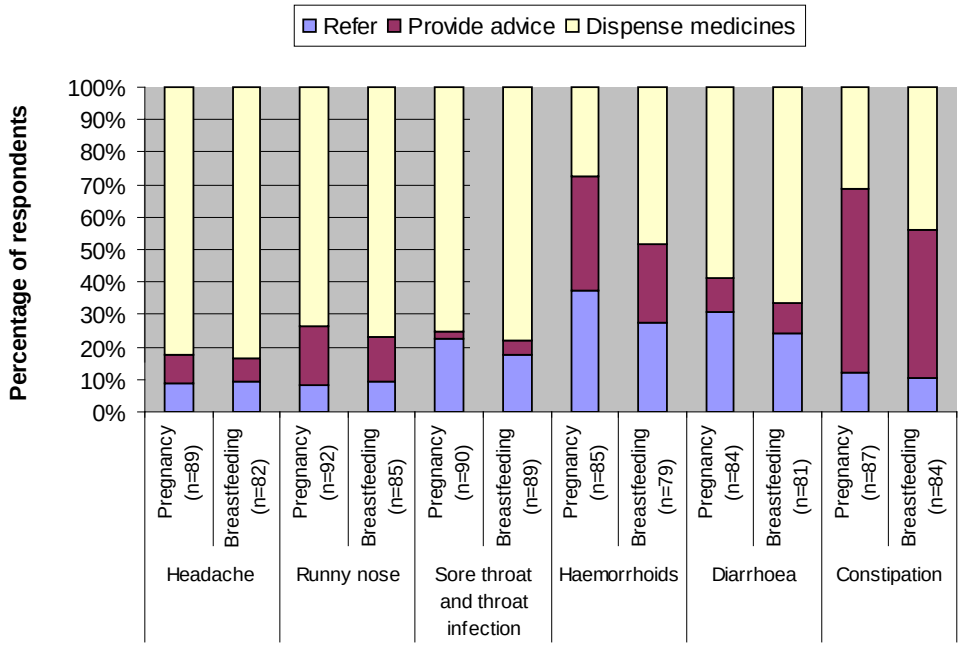
This part of the study compared the community pharmacists' services provided for the most common minor ailments suffered by pregnant and breastfeeding women. There were six common ailments: headache, runny nose, sore throat, haemorrhoids, diarrhoea, and constipation. These illnesses were mentioned by Chonburi Province Pharmacist Society (2008) as the most common ailments for which community pharmacists provided services in Thai pharmacies.

Figure 7.1 shows the pharmacists' practices when responding to the six most commonly treated ailments in pregnancy and breastfeeding. The results found that these symptoms were treated by the pharmacists themselves (medicines dispensing and advice providing) rather than through a referral to a doctor.

Overall, they mainly treated both pregnant and breastfeeding women with medicines for most symptoms. Interestingly, constipation was the most common symptom requiring only advice in the case of both pregnant and breastfeeding women which is similar in the study of Schrempp *et al.* (2001), while haemorrhoids in pregnancy were likely to be referred to a doctor. The reason for these might be constipation is a most common symptom during pregnancy and can resolve without medication, but haemorrhoids might cause complicated symptoms in the long term such as bleeding.

More than 75% of pharmacists treated three symptoms with medicines rather than other services: headache, runny nose, sore throat. This result is the same as in a study with French community pharmacists (Damase-Michel *et al.*, 2004), where the authors found that French pharmacists often suggested medication for pain and fever, nose and throat disorders in pregnancy.

Figure 7.1 The response of pharmacists to six common ailments in pregnancy and breastfeeding



Focusing on the medicines which pharmacists usually choose to dispense for each symptom in pregnant and breastfeeding women, table 7.4 presents the name of these medicines mentioned by pharmacists. It can be seen that most medicines were selected to be dispensed for relief from the symptoms or discomfort.

Paracetamol was mainly selected to use as pain killers for both pregnant and breastfeeding women who complained of headaches, whilst ibuprofen was found to be given to breastfeeding women by a few pharmacists. It is well known that paracetamol is the analgesic of choice in pregnancy and breastfeeding. It was, however recommended to be avoided in high doses or prolonged exposure (Lee., Inch., & Finnigan, 2000; Stack, 1999). Although the study of Rebordosa *et al.* (2009) found that taking paracetamol in late pregnancy might increase the risks of a preterm baby, there is no strong evidence to support this at the moment. Ibuprofen, non-steroidal anti-inflammatory drugs (NSAIDs), can be used for severe pain in breastfeeding. In the normal dose, 400mg three times a day, it appears that

too small an amount is excreted in breast milk to be harmful to the newborn baby (Townsend *et al.*, 1984). In pregnancy, there is limited experience on the safety of NSAIDs, so they should be avoided especially in late pregnancy (Lee. *et al.*, 2000).

In the case of runny nose, antihistamine tablets were dispensed to help reduce nasal secretions, chlorpheniramine was the most common medicine to be dispensed for pregnant and breastfeeding women. This medicine has been used for many years with no teratogenicity evidence in humans. Caution suggests that the risk of drowsiness when taking it may make it impracticable for both pregnant and breastfeeding women. As a result, intranasal steroids as formulated sprays were recommended as the drugs of choice (Lee. *et al.*, 2000). They appear to present a very low risk for an unborn baby and probably give negligible concentrations in breast milk.

The antibiotic, amoxicillin, was used to treat sore throat and throat infection. Penicillins and macrolide groups such as amoxicillin and erythromycin are suitable and safe in pregnancy and breastfeeding for use in full adult doses (Laibl & Sheffield, 2006; Lee. *et al.*, 2000; Lim, Macfarland, & Colthorpe, 2003). Upper respiratory tract infections, however, are usually minor and self-limiting disorders, so the treatments only require symptomatic relief and antibiotics are usually not necessary.

Scheriproct® suppository, the combined preparations with local anaesthetics and corticosteroids, was mostly used to treat haemorrhoids in both pregnant and breastfeeding women. No teratogenic effects are to be expected under therapeutic conditions, nevertheless, the corticosteroids preparations should be avoided during the first trimester of pregnancy. The excretion of this product in breast milk is unlikely to happen (*Product information: Scheriproct*, 2006). Topical preparations such as creams and ointments can be recommended for the relief of discomfort (Lee. *et al.*, 2000). Daflon® tablet containing the flavonoid mixture is used for treatment of haemorrhoids in pregnancy and there is no evidence that it will

harm women or their fetus (MacKay, 2001). Moreover, pharmacists may provide advice to these women that haemorrhoids usually resolve spontaneously after giving birth, and persistent constipation without treatment tends to worsen the condition.

Stimulant laxatives; unison enema, senokot, glycerine suppositories and bisacodyl were mostly selected to treat constipation in both groups of women. It is strongly recommended that these are to be avoided in pregnancy and breastfeeding. They may cause uterine contractions in the third trimester and may induce colic or diarrhoea in a breastfed baby. Bulk-forming laxatives; ispaghula husk (Fybogel®) are a suitable first choice for treatment in these women (Lee. *et al.*, 2000; Schaefer, Peters, & Miller, 2007). Furthermore, eating more high fibre foods and drinking plenty of fluid should be promoted in pregnancy to prevent constipation.

Oral rehydration salts and activated charcoal tablets were mostly selected to treat diarrhoea in both groups of women. There is no evidence of any problems in using these products in pregnancy and breastfeeding. Moreover, a few pharmacists chose Smecta® and Kaolin and pectin preparation (Kaopectal®) to treat diarrhoea. These preparations are also safe during pregnancy and breastfeeding because they are not absorbed into a woman's body but excreted in the stools. They can be used as antidiarrhoeal of choice (Black & Hill, 2003). Norfloxacin which is a quinolone antibiotic, and loperamide which is an antimotility drug should be avoided for treatment of diarrhoea in both pregnant and breastfeeding women (*British National Formulary*, 2007). Diarrhoea can, however, present with mild to severe symptoms. Therefore, if diarrhoea is accompanied by pain, vomiting or fever, women should be recommended to contact a health professional.

Table 7.4 Names of medicines that pharmacists decided to dispense for each symptom

Common Symptoms	Number of pharmacists dispensed medicines	
	Pregnancy	**Breastfeeding**
Headache		
Paracetamol	76	65
Ibuprofen	-	4
Runny nose		
Chlorpheniramine	60	51
Pseudoephredine and Triprolidine	6	11
Eucalyptus oil	3	2
Loratadine	1	2
Sore throat and throat infection		
Amoxycillin	70	68
Roxithromycin	-	3
Haemorrhoids		
Scheriproct®*(suppository)	15	26
Daflon® tablet*	6	8
Anusol®*(ointment)	3	4
Constipation		
Unison enema®*	7	11
Senokot tablet®*	6	7
Glycerine suppository	4	4
Fybogel®*	4	8
Milk of Magnesia suspension	4	3
Bisacodyl tablet	3	5
Diarrhoea		
Oral rehydration salts	32	30
Activated charcoal tablet	12	11
Smecta®*	3	6
Kaopectal®*	2	2
Norfloxacin	1	3
Loperamide	1	2

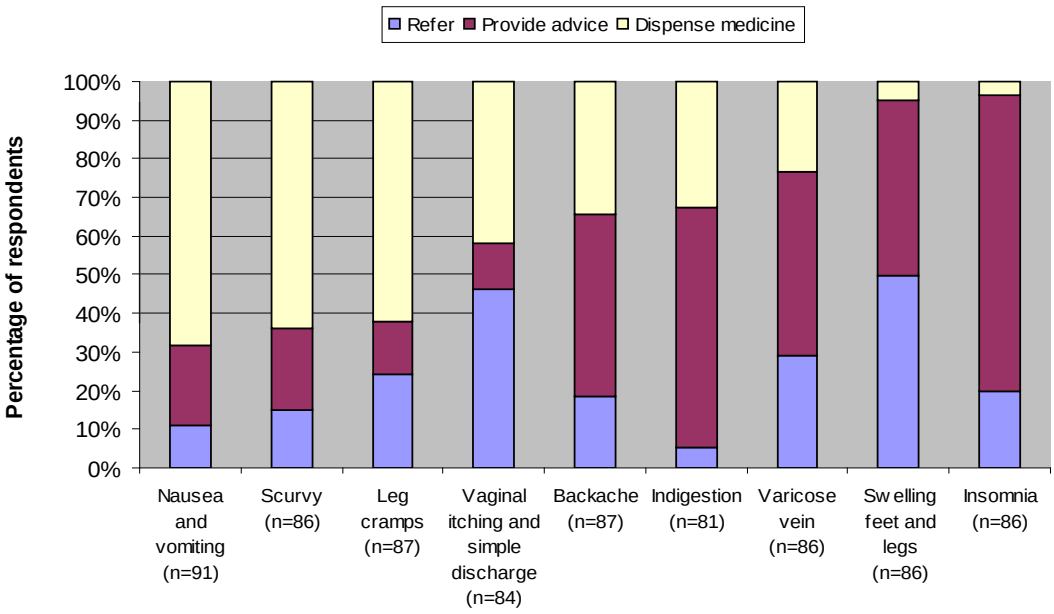
*See glossary for ingredients of medicines (Appendix 5)

7.2.2 Specific symptoms in pregnancy

This part presents the services which pharmacists might give to treat the specific symptoms which make pregnant women feel uncomfortable. Most women will experience pregnancy-related symptoms at some stages; in general, they consider this a normal part of pregnancy and do not contact a health professional. When these symptoms become more troublesome, however, they may seek professional advice (Lee & Grubbs, 1993; Lee. *et al*., 2000). There are nine common pregnancy symptoms to be considered in this study: nausea and vomiting, scurvy, leg cramps, vaginal itching and simple discharge, backache, indigestion, varicose vein, swelling feet and legs, and insomnia. Overall, pharmacists decided to provide services by themselves, to dispense medicines and give advice, rather than refer women to their doctor.

The majority of pharmacists decided to dispense the medicines for three symptoms; nausea and vomiting, scurvy, and leg cramps. They mostly provided only advice for four symptoms; backache, indigestion, varicose vein, and insomnia, and mainly referred to the doctor for two symptoms; vaginal itching and simple discharge, and swelling feet and legs. Figure 7.2 shows the services which pharmacists selected to relieve the common pregnancy symptoms.

Figure 7.2 Pregnancy symptoms to which pharmacists responded by services



Focusing on medicines which pharmacists might dispense to pregnant women, table 7.5 presents the names of medicines which pharmacists reported for treatment in each symptom.

Nausea and vomiting in pregnancy which is known as morning sickness are the most common symptoms in early pregnancy and tend to resolve after 3-4 months of pregnancy. In this study, most pharmacists dispensed vitamin B6 when pregnant women consulted about morning sickness. Vitamin B6 is effective for the treatment of morning sickness in pregnancy, as is ginger (Chittumma, Kaewkiattikun, & Wiriyasiriwach, 2007). In addition, Sahakian et al.' study (1991) reported that there was significant reduction in vomiting only in women with severe symptoms by using vitamin B6 25mg every eight hours. Moreover, dimenhydrinate and domperidone were also selected for the relief of morning sickness in pregnancy. Dimenhydrinate is an antihistamine and anticholinergic drug which has been used to control severe nausea and vomiting during pregnancy (Quinlan & Hill, 2003). Domperidone is a dopamine antagonist drug which is generally considered safe for use in pregnancy as a third choice, and the

manufacturer recommends using it with caution. The first choice of anti-emetic drugs for pregnancy is antihistamines drugs such as cyclizine and promethazine, and the second choice is the phenothiazines group such as prochlorperazine (Lee. *et al*., 2000).

Scurvy is a symptom of vitamin C deficiency, so vitamin C was selected for pregnant women by participating pharmacists. Vitamin C levels decline slightly in pregnant women and the women may develop this deficiency symptom. There is no evidence that excessive doses of vitamin C harm either mother or fetus (Lee. *et al*., 2000).

Leg cramps are common in the third trimester but the reason for this is unknown. They might be caused by varicose veins or swollen legs. The symptoms start with a strong muscle contraction associated with muscle hardness or tightness which causes a painful sensation. Pharmacists mainly dispensed calcium tablets for treatment. There is no strong evidence to confirm the benefits of calcium for the relief of leg cramps in pregnancy. Conversely, non-pharmacological methods were strongly recommended to relieve symptoms such as stretching or massaging the tight muscle during the attack (Hensley, 2009).

Vaginal itching and simple discharge are frequent problems in pregnancy. Canesten® pessaries (clotrimazole) were the most popular treatment choice of the participating pharmacists. Imidazoles such as clotimazole, econazole, miconazole in external use form is the anti-fungal first choice in pregnancy (Lee. *et al.*, 2000).

Back pain is a very common symptom in late pregnancy because of the increasing body weight. Paracetamol tablets and external pain killers (diclofenac gel and balm) were selected to relieve back pain by pharmacists in this study. Paracetamol is a non-opioid analgesic which is the drug of choice for pain and fever in pregnancy, although it has to be avoided in high doses and prolonged usage (Lee. *et al*., 2000).

Indigestion can be described as heartburn, bloating, and discomfort in the stomach and the most common cause is gastro-oesophageal reflux (Clinical Knowledge Summaries, 2008). Digestive and antiflatulent tablets; Magesto-F®, polyenzyme, antacid, and simeticone, were chose by pharmacists to relieve indigestion symptoms in pregnancy. These medicines can be used safely in pregnant women, although aluminium containing preparations might cause constipation (*MIMS: Thailand* 2004).

Varicose veins are very common in pregnancy because the weight of placenta and uterus press on the veins in the pelvis. In addition, pregnant women have more blood circulation round their body and progesterone hormone causes blood vessel relaxation. As a result, blood vessels have to work hard to return the blood from the legs to the heart, so the veins in the legs are likely to be swollen or varicose and this can also be linked to leg cramps especially at night (Bamigboye & Smyth, 2007). Hirudoid cream was mostly recommended to help reduce varicose veins, while Daflon® tablets were also selected to treat varicose veins. These medicines can be used safely in pregnancy and they do not harm the unborn baby (MacKay, 2001; *MIMS: Thailand* 2004).

Swelling of the legs and feet in pregnancy is very common because women during pregnancy normally retain more fluid in their bodies especially in the third trimester and during summer heat. Schreier (1976) suggested that compression support socks, exercise, and rest are recommended to relieve the symptoms as similar in the website of Baby and pregnancy (2009). In this study, hydrochlorothiazide tablets and Reparil® tablets (absorbable aescin) were chosen to reduce swelling of the feet and legs. Hydrochlorothiazide is a diuretic in the thiazide group which may cause neonatal thrombocytopenia in the third trimester, so it is not recommended in pregnancy (*British National Formulary*, 2007). Reparil® tablets can inhibit oedema, reduce swelling and inhibit inflammation, but the manufacturer suggested avoiding them in pregnancy especially during the first trimester (MADAUS, 2008).

Insomnia or sleepiness is most common in pregnancy. The cause of sleeping disorders is hormone changes and discomfort (Pien & Schwab, 2004; Santiago, Nolledo, Kinzler, & Santiago, 2001). In this study, antihistamines, such as chlorpheniramine and dimenhydrinate, were chosen to help insomnia. They can be used safely during pregnancy (Lee. *et al*., 2000). In general, taking a warm bath and relaxation techniques such as massage can help to induce pregnant women to rest and sleep without using medicines.

Table 7.5 Medicines that pharmacists decided to dispense for pregnancy symptoms

Common Pregnancy Symptoms	No. of pharmacists
Nausea and vomiting	
Vitamin B6	33
Dimenhydrinate	12
Dimenhydrinate plus vitamin B6	5
Domperidone	4
Vit B1-6-12	3
Vitamin Bco	1
Vitamin B12	1
Dimenhydrinate plus vitamin Bco	1
Dimenhydrinate plus vitamin B1-6-12	1
Domperidone plus vitamin B6	1
Scurvy	
Vitamin C	55
Leg cramps	
Calcium tablet	47
Vitamin B complex	3
Calcium and Magnesium	2
Vitamin B1-6-12	2
Vaginal itching and simple discharge	
Canesten pessary	35
Backache	
Paracetamol	16
Diclofenac gel	10
Heat	
Balm	3
Celecoxib tablet	1
Indigestion	
Magesto-F® tablet*	18
Polyenzyme® tablet*	7
Simethicone tablet	3
Antacid® suspension*	2
Carminative mixture*	2
Varicose veins	
Hirudoid® cream*	12
Daflon® tablet*	5
Reparil® gel*	3
Swelling feet and legs	
Hydrochlorothiazide	2
Reparil® tablet*	2
Insomnia	
Chlorpheniramine	2
Dimenhydrinate	1

*See glossary for ingredients of medicines (appendix 5)

7.2.3 Specific symptoms in breastfeeding

This part presents the services which pharmacists chose in response to specific symptoms in breastfeeding women. The four symptoms which were most selected are the most common symptoms that breastfeeding women complain of: sore or cracked nipple, mastitis, insufficient milk, and engorgement (Kaneshiro, 2009).

Figure 7.3 shows the services which pharmacists chose in response to four specific symptoms in breastfeeding. Pharmacists mainly decided to serve breastfeeding women without medication by providing only advice or referral. Most pharmacists gave advice about ways to increase the breast milk and relieve engorgement of the breasts, whilst mastitis symptoms were referred to the doctor. Regarding sore or cracked nipple, a dispensed medicine was chosen by the same number of pharmacists as those who provided advice and referred to the doctor.

Figure 7.3 How pharmacists responded to each symptom in breastfeeding

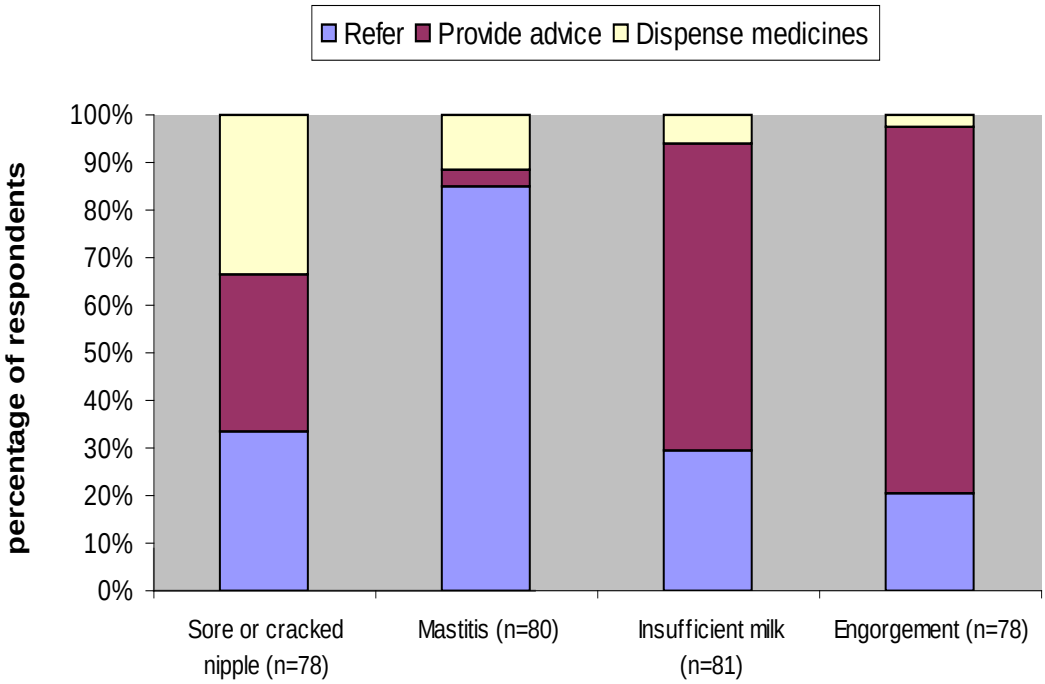


Table 7.6 shows the name of medicines which were dispensed for each symptom of breastfeeding. External products, Bepanthen® ointment and petroleum jelly, were chosen to relieve sore or cracked nipple. This symptom usually happens in the early days of breastfeeding; poor attachment of the baby mainly causes nipple pain and cracked nipples. There is no evidence to confirm that the effective application of topical products can heal a nipple. The best treatment is to teach the women regarding positioning and attachment of the baby (Lee. *et al*., 2000).

Oral forms of penicillin antibiotics were considered to treat mastitis. When women's breasts are swollen, red and painful, and are sometimes accompanied by flu-like symptoms, these symptoms are known as mastitis (Lee. *et al.*, 2000). Infectious mastitis needs to be treated with oral antibiotics such as amoxicillin, or flucloxacillin as first lines of treatment, while self-care techniques are recommended in non-infectious mastitis such as warming the affected breast with warm water and gently expressing breast milk (NHS choices, 2008).

Domperidone was selected as a medicine to increase breast milk. Worries regarding not producing enough breast milk are a major concern of new mothers and this may lead to them supplementing their breastfeeding with artificial powder milk from a bottle. Breastfeeding techniques are introduced to new mothers such as improving the position and attachment of the baby, and increasing the number and duration of feeds (Amir, 2006). Additionally, domperidone is used to increase milk supply: it works by raising the prolactin hormone which boosts the production of breast milk (Marasco, 2008).

Paracetamol was chosen to relieve the pain of engorgement. Breast engorgement is common for a few days after birth. Women complain of warmth and heaviness of the breasts, and experience a feeling of fullness. Self-care treatment without medicines can relieve the symptoms such as massage, and application of heat or warm water. A normal analgesic such

as paracetamol or an anti-inflammatory analgesic such as ibuprofen may be considered, although they must be used with caution and overdoses avoided (Amir, 2006; Lee. *et al*., 2000).

Table 7.6 Medicines that pharmacists dispensed for each breastfeeding symptom

Common Breastfeeding Symptoms	No. of pharmacists
Sore or cracked nipple	
Bepanthen® ointment*	12
Petroleum jelly	11
Olive oil	1
Vitamin E	1
Nipple cream	1
Mastitis	
Amoxycillin	5
Dicloxacillin	4
Insufficient milk	
Domperidone	5
Engorgement	
Paracetamol	2

*See glossary for ingredients of medicines (Appendix 5)

In summary, the results show that dispensing medicines and providing advice for pregnant and breastfeeding women were two main roles of Thai community pharmacists in pharmacies. Most medicines that were selected to be dispensed present a low risk to the mother and fetus, and they are not harmful to the infant (*British National Formulary*, 2006; *MIMS: Thailand* 2004). Self-care techniques are still important to relieve some symptoms without medicines. If pharmacists have adequate knowledge and information about self-care techniques, this would be useful for both pregnant and breastfeeding women.

7.3 Information sources of pharmacists

Pharmacists were asked to indicate the sources of information which they used to prepare themselves for providing advice to both pregnant and breastfeeding women. Books (39%), journal articles (21%), and websites (20%) were used for searching for information about medicines in pregnancy and breastfeeding (Table 7.7).

Similarly, reference books were also selected by pharmacists in a study from Singapore (Wong, Ko, & Sklar, 2009) as most important source of information for advising pregnant and breast feeding women. They cited that information from reference texts could be trusted and were more comprehensive than other sources. Nonetheless, it is difficult to keep information in reference texts up to date, so pharmacists should be aware about that and try to use a mixture of information resources.

Table 7.7 Reference sources for community pharmacists (choose more than one) (N=110)

Reference sources	Frequency (%)
Books	94 (39.3)
Journal articles	52(21.8)
Websites	50(20.9)
Handouts	38(15.9)
Others	5(2.1)

Considering co-operation or assistance from organizations related to pregnancy and breastfeeding, only 22.7% received some support. The main type of support was information leaflets (55.3%). Of those pharmacists who had not received any support and were questioned about it, 40.9% said they wanted information leaflets and 35.7% needed training in related topics. Table 7.8 shows the type of support provided for, and used by, community pharmacists from the related organizations about pregnancy and

breastfeeding and the types of support which were required by community pharmacists.

The lack of support and information about medication use in pregnant and breastfeeding women makes it difficult to update pharmacists' knowledge in this area. This issue has been shown in several studies. Zehnder *et al.* (2004) discussed that deficits in drug information were reported for paediatrics and drugs during pregnancy and lactation. Most pharmacists in Hutchinson *et al.* study (Hutchinson, Mitchell, Hansford, & Stewart, 2001) requested for an accurate, current and comprehensive data source to improve their work as counter- prescribing in pregnancy. In addition, updated information on drug during pregnancy and breastfeeding is still required for pharmacists. Access to computerised databases might be an easy way to gather information as required (Lyszkiewicz *et al.*, 2001). Ronai *et al.* (2009) mentioned that it is difficult to have adequate information about the effects of maternal medication use during pregnancy and breastfeeding because these women are exclude ethically from clinical trials of drugs. As a result, there was little information and experience with these medicines in new mothers when new medicines were marketed .

Table 7.8 Supporting types for community pharmacists (N=110)

Type of support	Frequency (%)
Have co-operation or receive assistance from organization	
No	85 (77.3)
Yes	25 (22.7)
Types of support which pharmacists received (choose more than one) (N=25)	
Information leaflet	21 (55.3)
Training in related topics	9 (23.7)
Hotline to answer the questions	5 (13.1)
Others:	3 (7.9)
Pharmacists who have not received assistance from any organization needed the support	
Yes	80 (94.1)
No	5 (5.9)
Types of support which pharmacists required (choose more than one) (N=80)	
Information leaflet	70 (40.9)
Training in related topics	61 (35.7)
Hotline to answer the questions	36 (21.1)
Others:	4 (2.3)

7.4 Views about self-care of pregnant and breastfeeding women

Pharmacists were asked to indicate their level of agreement or disagreement with the nineteen statements related to self-care in pregnancy and breastfeeding, 5-point Likert scales were used to measure their views (strongly agree = 5, agree = 4, uncertain = 3, disagree = 2, strongly disagree = 1). For calculating the total scores, frequency of pharmacists in each agreement or disagreement levels were counted, then converted into a percentage. Five negative statements in the questionnaire were recoded before calculating scores, however, so that a high value meant “strongly agree”.

Factor analysis was used to classify each statement into related dimensions by focusing on the relationships between statements. Table 7.9 summarises the agreement level which responded to nineteen statements and seven dimensions.

In the first dimension, pharmacists were asked about knowledge and confidence related to giving advice and solving medication problems for pregnant and breastfeeding women. More than fifty-three percent of pharmacists indicated that they agreed with the statements. Interestingly, 1.8% of pharmacists disagreed that they have knowledge and confidence about providing advice and solving health problem of pregnant women, whilst 8.2% strongly disagreed and disagreed in breastfeeding issues.

In the second dimension about self-care support and promoting breastfeeding, the majority of pharmacists strongly agreed that community pharmacists can support the self-care of pregnant and breastfeeding women: community pharmacists question their customers thoroughly about pregnancy and breastfeeding before dispensing medicines, and community pharmacists can promote breastfeeding programmes, respectively.

In the third dimension about the importance of self-care in pregnancy and breastfeeding, more than eighty-five percent revealed that they strongly agreed that self-care is important for both pregnant and breastfeeding women.

In the forth dimension, self-medication in pregnancy and breastfeeding was considered. More than fifty percent of pharmacists agreed that both pregnant and breastfeeding women can use self-medication to treat their minor symptom.

The most fascinating item is about over-the-counter medicines in the fifth dimension. Only less than ten percent of pharmacists strongly agreed and agreed that over-the-counter medicines are safe for pregnancy and

breastfeeding. Conversely, more than forty percent of pharmacists disagreed about the safety of over-the-counter medicines for both women.

In the sixth dimension about vitamins and exercise for pregnancy, about forty percent of pharmacists agreed that all pregnant women should take calcium and folic acid, and should exercise at least three times a week. Few pharmacists still strongly disagreed, however, and disagreed with all these statements.

In the final dimension about the importance of breastfeeding, the majority of pharmacists (93.6%) strongly agreed that breast milk is the best baby food. Nevertheless, only 33.6% and 30.0% of pharmacists strongly agreed and agreed respectively that the baby should receive exclusive breastfeeding up to 6 months of age, and only 51.9% of respondents strongly agreed that breastfeeding improves the health of the baby.

These scales of agreement were measured by Cronbach's alpha to check internal consistency which was based on the average inter-item correlation. Cronbach's alpha reliability coefficient ranges from 0 to 1. The closer coefficient is to 1.0 the greater the internal consistency of the items (Gliem & Gliem, 2003). Table 7.10 shows internal reliability of each dimension. The internal consistency of this scale was 0.704 which is acceptable reliability. Reliability level for the dimensions was fair to excellent, ranging between 0.463 and 0.976 respectively.

Table 7.9 Views of community pharmacists about self-care in pregnancy and breastfeeding separated in each dimension by using factor analysis

Items	No.	Strongly agree (%)	Agree (%)	Uncertain (%)	Disagree (%)	Strongly disagree (%)
Knowledge and confidence about pregnancy and breastfeeding						
-I am confident about giving advice and counselling to breastfeeding women.	110	27.3	48.2	16.4	6.4	1.8
-I have sufficient knowledge to solve medication and health problem of breastfeeding women	110	25.5	51.8	14.5	5.5	2.7
-I am confident about giving advice and counselling to pregnant women	110	23.6	50.9	23.6	1.8	-
-I have sufficient knowledge to solve medication and health problems of pregnant women	110	18.2	56.4	23.6	1.8	-
Support self-care and promote breastfeeding						
-Community pharmacists can support the self-care of pregnant and breastfeeding women.	110	64.5	32.7	1.8	-	0.9
-Community pharmacists question women thoroughly about pregnancy and breastfeeding before dispensing medicines.	109	62.4	25.7	10.1	1.8	-
-Community pharmacists can promote breastfeeding programmes.	110	54.5	32.7	10.0	1.8	0.9
The importance of self-care in pregnancy and breastfeeding						
-Self-care is important for pregnant women.	110	91.8	8.2	-	-	-
-Self-care is important for breastfeeding women.	110	84.5	15.5	-	-	-
Self-medication for pregnant and breastfeeding women						
-Pregnant women can use self-medication to treat minor symptoms.	109	27.5	51.4	9.2	9.2	2.8
-Breastfeeding women can use self-medication to treat minor symptoms.	110	17.3	54.5	10.0	15.5	2.7
Safety of Over-the-counter medicines						
-Over-the-counter medicines are safe for breastfeeding.	110	1.8	6.4	18.2	44.5	29.1
-Over-the-counter medicines are safe for pregnancy.	110	1.8	5.5	19.1	42.7	30.9
Vitamin and exercise in pregnancy						
-All pregnant women should take calcium.	110	38.5	46.8	9.2	4.6	0.9
-All pregnant women should take folic acid	110	35.5	40.9	17.3	5.5	0.9
-All pregnant women should exercise at least 3 times a week.	107	24.3	44.9	24.3	5.6	0.9
The importance of breastfeeding						
-Breast milk is the best baby food.	110	93.6	6.4	-	-	-
-Breastfeeding improves the health of the baby.	110	51.9	24.5	5.5	10.9	6.4
-Baby should receive exclusive breastfeeding to 6 months.	110	33.6	30.0	14.5	15.5	6.4

Table 7.10 Internal reliability of dimension

Dimension	Number of items	N	Reliability
1. Knowledge and confidence about pregnancy and breastfeeding	4	110	0.744
2. Support self-care and promote breastfeeding	3	109	0.463
3. The importance of self-care in pregnancy and breastfeeding	2	110	0.737
4. Self-medication for pregnant and breastfeeding women	2	109	0.531
5. Safety of Over-the-counter medicines	2	110	0.976
6. Vitamin and exercise in pregnancy	3	106	0.654
7. The importance of breastfeeding	3	108	0.521

In this section, it can be seen that self-care and self-medication behaviours in pregnant and breastfeeding women were recognized, and the support and promotion in these behaviours can be done by pharmacists. The knowledge and confidence of pharmacists, however, were still an issue. Some studies revealed that community pharmacists do not always provide appropriate advice because they did not receive adequate information (Damase-Michel *et al.*, 2004; Lyszkiewicz *et al.*, 2001). It is confirmed with study in Israel (Merlob *et al.*, 1998) that only 9% of pharmacist reported about counselling pregnant and breastfeeding women. As a result, providing update and accurate information could improve the knowledge and increase self-confidence for community pharmacists in terms of counselling in women during pregnancy and breastfeeding.

The safety of over-the-counter medicines was a major concern for self-medication in pregnancy and breastfeeding. This finding is consistent with the study in Jordan which interviewed the general public about the role of pharmacists, the use of pharmacy services, and perception and usage of over-the-counter medicines (Wazaify *et al.*, 2008). Over-the-counter medicines are indicated by Jordanian that they were still in doubt about safety to use without consult health professionals. Likewise, nearly 90% of participants in Northern Ireland reported that non-prescription medicines could be abused and might not always be safe to use without advice (Wazaify, Shields, Hughes, & McElnay, 2005).

Less attention about folic acid and calcium in pregnancy had been clearly paid by participating pharmacists. Follow the finding of the study in Bangkok which surveyed serum folate in 165 healthy women at child bearing age (Sirikulchayanonta, Madijupa, Chongsuwat, & Pandii, 2004), sixty percent of Thai women had low serum folate levels which can affect to their babies' health such as neural tube defects. In another study which conducted data from pregnant women and child-bearing-age medical mothers in Bangkok (Vilaiphan, Suphapeetiporn, Phupong, & Shotelersuk, 2007), only three percent of pregnant women knew about folic acid just 0.3% had taken. In mothers with a medical knowledge, only forty percent had been aware about the benefit of taking folic acid in pregnancy. Regarding the benefit of calcium, it is claimed in a recent study that calcium supplement can reduce the risk of pre-eclampsia in pregnant women with low dietary calcium by reducing blood pressure (Hofmeyr, Lawrie, Atallah, & Duley, 2010). In Thailand, some studies indicated that the diet of Thai population does not provide enough calcium for the bone and body, so foods containing calcium should be promoted (Matsuda-Inoguchi *et al.*, 2000; Pongchaiyakul *et al.*, 2008; Pongchaiyakul *et al.*, 2004). Therefore, calcium intake could be important for Thai pregnancy to prevent pre-eclampsia. Clearly, the folic acid and calcium intake should be widely promoted and educated in pregnant women and health professional including community pharmacists.

Exercise in pregnancy was also found to be of less concern to participating pharmacists. In general, it was clearly known that exercise is good for both physical and mental health. In pregnancy, exercise or physical activity can prevent certain symptoms according to some studies. The study done by Hegaard *et al.* (2007) found that the development of gestational diabetes mellitus and pre-eclampsia may be prevented by physical activity before and during pregnancy. The finding of study done by Dominques *et al.* (2008) indicated that exercise can also prevent the risk of preterm babies. As appropriate exercise or physical activity is likely to be beneficial in pregnancy this needs to be advertised better for the public.

The last issue of the pharmacists' view found that they were still doubtful about the benefit of breast milk and did not totally agree about exclusive breastfeeding six months. The reason for this might be insufficient information or inadequate experiences. Dykes (2006) suggested that the effective promotion and support of breastfeeding is dependant on the knowledge and understand of health practitioners about the nature of breastfeeding which is dynamic, relational and changes over time. Clearly, the education and specific information about breastfeeding should be strongly advised for community pharmacists.

7.5 Views about contraindicated medicines in pregnancy and breastfeeding

Focusing on contraindicated medicines, they were given two scenarios; "A pregnant woman wants to buy more of the medicines which she is taking, but this medicine is contraindicated during pregnancy" and "The pharmacist knows that the drug of choice for the symptoms of a breastfeeding woman is contraindicated during breastfeeding and treatment duration is three weeks. Also, she wishes to continue breastfeeding".

In the first situation, pharmacists were able to select from one of four choices: see the doctor again, advice an alternative medicine which is safer, stop the medicine immediately, and others. Table 7.11 shows the frequency of pharmacists' response in this question. Forty pharmacists (36.4%) said that they would advise her to see the doctor again and thirty-six pharmacists (32.7%) would advise an alternative medicine which is considered safe in pregnancy.

In the second situation, pharmacists answered from one of five choices: advise an alternative medicine which is more safe, advise to see the doctor, stop breastfeeding temporarily while taking this medicine, take this medicine before breastfeeding at least 2 hours, and stop breastfeeding and explain about the necessity to treat with this medicine. The frequency of pharmacists' response to each choice is shown in table 7.12. Forty-three pharmacists (39.1%) chose the alternative safer medicines for breastfeeding

women instead. Interestingly, eleven pharmacists (10.0%) said a woman should stop breastfeeding and continue taking this medicine.

Table 7.11 Frequency of pharmacists' responses to pregnant woman, who wants to buy more of the medicine which she is taking, but this medicine is contraindicated during pregnancy (N=110)

Advice from pharmacists	Frequency (%)
Advise to see the doctor again	40 (36.4)
Advise an alternative safety medicine	40 (36.4)
Advise to stop this medicine immediately	30 (27.2)

Table 7.12 Frequency of pharmacists' responses to breastfeeding woman, after she told the detail of symptoms and pharmacist knows that drug of choice is contraindicated for breastfeeding and she must take this medicine for three weeks. (N=110)

Advice from pharmacists	Frequency (%)
Advise an alternative safety medicine	43 (39.1)
Advise to see the doctor	30 (27.3)
Advise to stop breastfeeding temporarily while taking this medicine	15 (13.6)
Advise to take this medicine before breastfeeding at least 2 hours	11 (10.0)
Advise to stop breastfeeding permanently and explain about necessity to treat with this medicine	11 (10.0)

The results from the two situations were analysed to examine the relationship between gender and the answer to the two questions about contraindicated medicine by using Crosstabulation and Pearson's Chi-square test (p-value<0.05). From the results of analysis, pharmacists' advice for pregnancy had no significant relationship (χ^2=0.633, p-value=0.729) with gender of pharmacists, which is shown in figure 7.4. Consequently, pharmacists' advice for a breastfeeding woman had a significant relationship (χ^2= 21.05, p-value< 0.001) between male and female pharmacists. It can be seen in figure 7.5 that female pharmacists

were likely to suggest an alternative medicine which is safer, whilst male pharmacists mostly referred the woman to a doctor. In contrast, no significant differences in pharmacists' counselling in pregnancy and breastfeeding by gender had been found in Nebraska study (Schrempp *et al.*, 2001).

Figure 7.4 The advice from pharmacists about contraindicated medicines in pregnancy

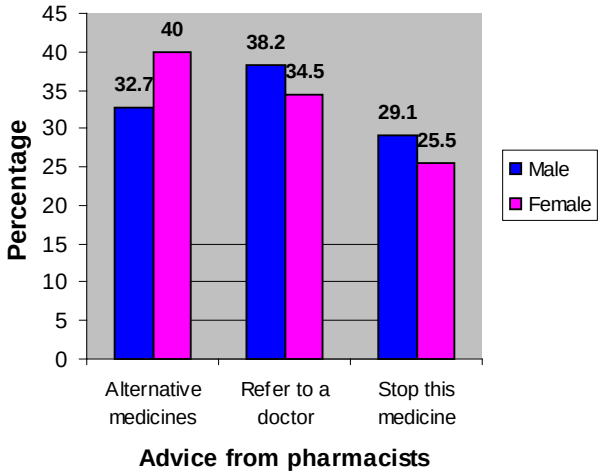
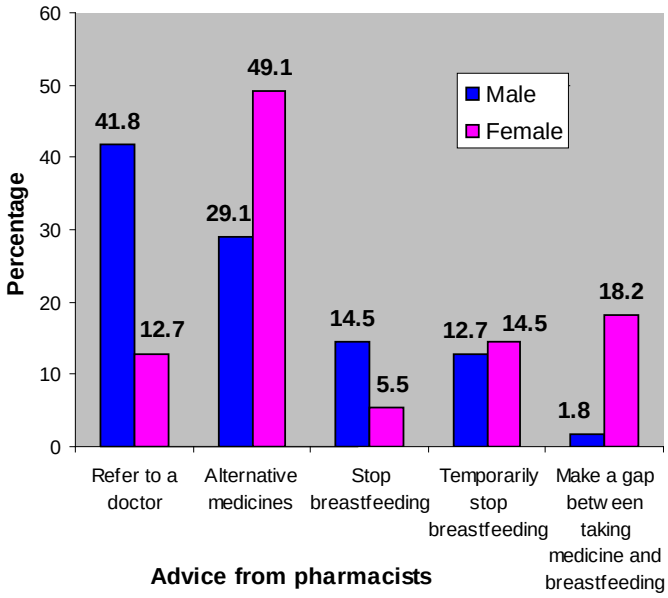


Figure 7.5 The advice from pharmacists about contraindicated medicines in breastfeeding



In the final section of the questionnaire, there was space for pharmacists to write free text comments about self-care in pregnancy and breastfeeding. Interestingly, forty pharmacists wrote comments. Twenty pharmacists said that Thai pharmacists still lack reliable data about the use of medicines in pregnancy and breastfeeding. Fifteen pharmacists suggested that government or organizations related to pregnancy and breastfeeding should provide training courses for community pharmacists. Five pharmacists cited that they had become less confident to be able to give advice during pregnancy and breastfeeding self-care because only a few pregnant and breastfeeding women came to ask them for advice. These findings were similar in the study done by Schrempp *et al.* (2001) that the lack of medical information and related documents makes it difficult to broaden pharmacists' knowledge in this area. In Damase-Michel *et al's.* study (2004), the answers of pharmacists were sometimes inappropriate because there was a general lack of knowledge regarding the used of medicine during pregnancy and breastfeeding which was also confirmed by Lyszkiewicz's study (2001).

Summary

A major role of community pharmacists in Thailand is the diagnosis of symptoms and dispensing medicines to pregnant and breastfeeding women. The common cold is the symptom which both groups of women most frequently consult the pharmacist about. Most pharmacists still need support with knowledge and information in pregnancy and breastfeeding issues from related organizations. Considering services which pharmacists provided to both pregnant and breastfeeding women, pharmacists mostly decided to solve the problems by themselves; dispensing medicines or providing only advice, rather than referring to a doctor. Medicines which were mainly dispensed were quite safe for women and their baby. About the attitude of pharmacists, most pharmacists agreed that self-care is important for both pregnant and breastfeeding women and they believed they can provide support for these women. On the contraindicated

medicines issue, female pharmacists tended to suggest alternate medicines to women, while male pharmacists mostly chose to refer the women to a doctor.

CHAPTER 8
DISCUSSION AND CONCLUSIONS

Introduction

This chapter provides a summary and interpretation of the key findings about self-care activities of Thai women during their pregnancy and after giving birth, and my personal explanation about some of the practices in Thailand. The main outcome is to investigate self-care behaviours to improve and maintain health and well-being during pregnancy and breastfeeding and to determine how pregnant and breastfeeding women manage their minor ailments. In addition, the results from a survey of community pharmacists are also described, presenting their knowledge and views about self-care activities in pregnancy and breastfeeding. The limitation of the study, the implications for practice, and recommendation for future research are included in the chapter.

This was a combined study, involving women and community pharmacists, to try to understand women's self-care activities during pregnancy and breastfeeding and indicate the current situation in pharmacies about advice regarding self-care activities for pregnant and breastfeeding women.

Each woman took part in two in-depth interviews during pregnancy in the antenatal clinic and at one month after giving birth in the woman's home. Forty-three women took part in the first interview and thirty-five women agreed to continue participation in a second interview. Qualitative analysis was used to analyse the results of the study. The main findings from this part of the study demonstrate that self-care practices in Thai pregnant and breastfeeding women are based on personal and social interdependence. These practices are generated from ties of kinship and created by cultural or traditional beliefs. It can be seen that some activities are of benefit to both the women and their babies, whilst some practices seem to harm women's

health or to cause uncomfortable symptoms. Moreover, a few activities have no evidence to confirm their benefits or harm to either women or their babies. All self-care practices are still observed in practice by Thai women. The details of these activities are presented in this order in sections 8.1 to 8.3.

A self-completion questionnaire was used to collect data from community pharmacists in Chiangmai province, Thailand. One hundred and ten pharmacists responded to the study, and the response rate was 56%. A quantitative method was used to analyse data in this part. Results of this part of the study indicate the major role and services of community pharmacists in Thailand, and the attitude of pharmacists about self-care during pregnancy and breastfeeding are revealed. The information is presented in detail in section 8.4.

8.1. Self-care practices which are likely to promote health and well-being during pregnancy and breastfeeding

8.1.1 Take better care of own health both physical and mental during pregnancy

All women tried to take good care of themselves to ensure good outcomes for their babies. Some women who had pre-existing conditions revealed that their symptoms often seemed to resolve during their pregnancy because they changed their eating habits and improved their daily activities.

Some women decided to leave or change their jobs because they were concerned about stress at work and restlessness which was reducing their well-being during pregnancy. They tried to relax and to get more rest in order to maintain their mental and physical health.

8.1.2 Avoid taking medication during pregnancy and breastfeeding

Women tried to avoid unnecessary exposure to medicines during pregnancy and breastfeeding. If they suffered from uncomfortable ailments during pregnancy, they tried to ignore them and to take more rest to relieve these symptoms. They avoided medicines and waited patiently for those symptoms to disappear. Similarly, women during breastfeeding still did not want to take any medicines. They tried to eat more fruit and vegetables for relief of constipation. For breastfeeding problems, such as sore nipples, cracked nipples, and engorgement, most women decided to apply breast milk to their nipples after the baby had finished feeding instead of using nipple cream. Additionally, they massaged their breasts when they felt pain and hardness. Consequently, non-pharmacological methods were considered safer than using medicines to relieve minor symptoms during pregnancy and breastfeeding.

8.1.3 Consulting health professionals in severe illness during pregnancy and breastfeeding

Most women reported that if they thought they were severely ill, they always consulted their doctor rather than self-medicating. Health professionals, such as doctors, still had important roles for advising and treating pregnant and breastfeeding women who suffered from severe symptoms. Furthermore, most pregnant women said that they took some vitamins and iron supplements but only those recommended by their doctor when they visited the hospital antenatal clinic. This practice may help in the detection and treatment of the early stages of more serious diseases. Pharmacies and clinics were mentioned as the most useful places to get advice during pregnancy and breastfeeding.

8.1.4 Using experienced and knowledgeable people as information sources

Family members and friends who had experienced pregnancy and breastfeeding were important sources of information and support for women during these periods. Nurses or midwives in hospitals were important people to help new mothers to look after both themselves and their babies. Doctors were consulted by the women for severe illnesses. This practice can help the women to maintain their health and safely resolve their problems.

8.1.5 Increase in the quality of healthy foods and drink during pregnancy and breastfeeding

All pregnant women tried to increase the quality of healthy foods and drink that they consumed. They revealed that they tended to incorporate an increased amount of fruit and vegetables into their diet. They were recommended to increase their iodine intake during pregnancy. Furthermore, some special dishes were indicated for pregnant and breastfeeding women.

Kaeng Puk Pung

'Kaeng Puk Pung' is an important dish for pregnancy especially when approaching the expected date of birth. Thai people believe that pregnant women should eat this soup to help with an easy labour. It contains fish or pork, tomato, lime juice and tamarind paste. The taste of this soup can help to increase pregnant women's appetite. The property of Puk Pung leaf as a mild laxative might relieve constipation.

Kaeng Blee

Kaeng Lieng

‘Kaeng Blee’ and ‘Kaeng Lieng’ are the most important dishes for breastfeeding women. Kaeng Blee is a banana flower curry with pork and tomato. Kaeng Liang is a versatile soup mixed with many kinds of vegetables. Thai people believe that these dishes can help increase breast milk for women. From the pictures, both dishes contain plenty of vegetables, increasing the intake of vegetables. Moreover, the taste of the two dishes is very gentle and delicious, so they can also increase women’s appetite.

Furthermore, most pregnant women said that they had increased their intake of milk, particularly special milk for pregnant women, to at least two glasses of milk per day. The special powdered milk for pregnant women is widely advertised on television by the milk companies. Although drinking milk is not the normal habit of Thai people, particularly in adults, the knowledge and information which women gathered from many sources influenced the women to increase milk intake during pregnancy.

Coconut juice is a type of drink which has a good smell, no added sugar, and comes from natural fruit. Thai people believe that coconut juice can help reduce the fat accumulated on the baby’s skin. This drink is thought to make pregnant women feel refreshed and is a healthy drink for pregnant women.

8.1.6 Avoid taking certain types of food and drink

Pregnant women stopped eating some types of food and drink which can affect their health and the baby's health. Spicy foods and pickled foods are usually avoided during pregnancy. Although these foods do not affect pregnant women's health directly, they could increase the risks of uncomfortable symptoms in these women. It is advised to cut down on alcohol, caffeine, and fizzy drinks during pregnancy. No one doubted the effect of alcohol and caffeine consumption during pregnancy, and the bad outcome on babies such as Foetal Alcohol Syndrome and low birth weight. Additionally, carbon dioxide in fizzy drinks is considered to increase the risk of wind and bloating in pregnancy. As a result, limitation of these food and drink will help to maintain women's health and well-being.

8.1.7 Stop smoking during pregnancy

Women tried to avoid everything which might have a bad effect on the health of their unborn baby. Smoking was given up immediately when women knew that they were pregnant. It is well known that smoking during pregnancy can cause serious problems or harm the health of both a woman and her baby.

8.1.8 Avoid attending special ceremonies during pregnancy

Women were discouraged from attending some special ceremonies, such as funerals and weddings. This belief may be due to concern about women's mental health during pregnancy. Pregnant women may be more stressed by feelings of extreme sadness or becoming too excited, both of which might affect their baby. On the other hand, they were also concerned about dangerous or uncomfortable situations for pregnant women. In the past, funerals and other ceremonies involved huge crowds gathering for these events and the process of each event took a very long time. Therefore, pregnant women who joined the events needed to sit on a hard chair or sometimes on the floor. It was often very uncomfortable for pregnant

women. Moreover, pregnant women had to go to the events by motorcycle or car, increasing the risk of involvement in road traffic accidents. So for these further reasons, the prohibitive rules were probably established to protect the pregnant women.

8.1.9 Use Mahahing Tincture for relief of bloating in babies

"*Mahahing*" or Asafetida Tincture was very popular for helping bloating symptom in babies. All women applied it around their baby's navel after bathing.

Mahahing Tincture is a household remedy drug in Thailand as categorized by The Ministry of Public health (1999). It is recommended that it is smeared thinly on the baby's stomach to relieve bloating two to three times a day.

8.2. Self-care practices which might contribute to minor ailments or discomfort during pregnancy and breastfeeding

8.2.1 Intake of dried food and limiting the intake of drinks after giving birth

Women after giving birth were still concerned about the types of food and drinks they took, especially the breastfeeding women. In northern Thailand, the food and drink rules for these women are very strict especially during the first month after delivery. They were forced to eat dried food with a bland taste and plain rice. This practice could lead to constipation. In addition, women were advised to limit water intake; this could lead to dehydration which might lead to the production of less breast milk.

8.2.2 Reduce exercise and activities during pregnancy and breastfeeding

Exercise during pregnancy and breastfeeding in the opinion of women in this study seemed to receive less attention. Walking and leg lifting were the types of exercise that women undertook during pregnancy. One month after delivery, women were forced to pay attention to their babies more than to exercise for themselves. Regular exercise is still an important activity to improve the health of women during pregnancy and breastfeeding. It might help to relieve some discomforts during pregnancy and to help the women to recover their health after giving birth especially in terms of losing weight.

8.2.3 Taking part in Yu-duan period after giving birth

The three main activities in the Yu-duan period are staying inside a room with the windows closed after delivery for nearly one month, wearing winter dress (long sleeves, long trousers or sarong, socks, and a warm hat), and limiting showers and shampooing the hair after giving birth. With these activities, women could feel uncomfortable especially in a hot country such as Thailand. Moreover, limitation of ventilation in the room might increase the room temperature so much that the extreme heat could affect the women and their babies. Some heat-related symptoms might appear such as heat rash and heat stroke. Wearing winter clothes, and limiting showers and shampooing in hot weather should be considered as a risk to hygiene: such insanitary conditions could leave the woman and her baby more liable to infections.

8.2.4 Using baby's napkin with fresh urine to clean the baby's white tongue

This practice should be considered as unhygienic for a newborn baby in order to prevent illness. Using a napkin with fresh urine to clean baby's

tongue might lead to exposure to hazardous organisms and to increase the risk of infection.

8.2.5 Weaning the baby before six months

This study found that some women had started weaning their baby by the time of the second interviews. As well as this early weaning, the foods they gave to the baby included items such as rice and banana. Before six months of age the baby's gastrointestinal system is not sufficiently mature to digest solid food properly. As a result there could be an increase in digestion problems, infections and allergies in these babies.

8.3. Self-care practices which probably have no benefit but cause no harm during pregnancy and breastfeeding

8.3.1 Avoid preparing things for newborn baby in advance

This practice was widely mentioned as a strictly prohibiting rule in Thai tradition. Most women reported that they did not know the actual reason for this rule, but they have to follow the suggestion from elderly people. Nowadays, this belief has no proof of evidence about benefits or harm for either women or their babies.

8.3.2 Take a shower and shampoo during pregnancy before sunset

This practice comes from the older generation's belief. Most pregnant women followed this rule without arguing. Old style Thai houses had a shower room outside which might, in the dark, have presented a danger for pregnant women. Conversely, modern houses always have a shower room inside, so this might reduce the belief in this issue.

8.3.3 Taking some herbal medicines after giving birth

A few women believed that some herbal medicines could help them to recover quickly or prevent them from contracting further symptoms which could arise after delivery. These medicines, such as a liquid herbal

medicine (unknown name) and Ya-Hom, were introduced to the women by elderly people, but there is no evidence regarding any benefit or harmful effects for either women or their babies.

8.3.4 Putting leaves into the bath water

Some women during pregnancy and breastfeeding reported that they have to shower and shampoo their hair with sacred water. Some leaves were put into this water, such as Puk Pung and lotus flower for pregnant women, and Bai Pao, Pu-Laey, and Sa-Pao-Lom for women after delivery. Women believe that these will help the process of delivery and recovery, but there is no medical evidence to confirm the benefits of this.

8.3.5 Blowing the baby's forehead to relieve hiccups

A bout of hiccups was a common symptom in newborn babies. This symptom is widely known and that it is usually self-limiting. Some women, however, had to follow the traditional belief of blowing their babies' forehead when their babies got hiccups. There is no evidence about this belief to prove either benefits or harm to babies, unless the person 'blowing' has a droplet of a transmissible infection.

8.4. Community pharmacists' views on self-care in pregnancy and breastfeeding

This is the first study to identify the views of community pharmacists about self-care in pregnancy and breastfeeding in Chiangmai, Thailand. The findings showed that diagnosis of symptoms and dispensing medicines were a popular role of Thai community pharmacists, and the common cold was the symptom that pregnant and breastfeeding women most frequently consulted the pharmacist about.

Overall, pharmacists in this study treated minor ailments in women who were breastfeeding with medicines more than pregnant women. They mostly recommended some vitamin and mineral supplements to relieve

morning sickness, scurvy, and leg cramps in pregnant women. Moreover, they tended to provide only advice without dispensing medicines for most of the common pregnancy and breastfeeding symptoms. Although most medicines which pharmacists indicated to dispense for pregnant and breastfeeding women were not harmful to mothers and babies, a few medicines should still be used with caution. Moreover, more than eighty percent of pharmacists dispensed paracetamol to treat headache in pregnancy. Although headache seems quite a common symptom, it can be linked to hypertension in pregnancy and be a symptom of pre-eclampsia. Therefore, the pharmacists should be aware of the differential diagnosis of some symptoms such as hypertensive disorders that may or may not be related to the pregnancy, and provide the appropriate services.

It is not surprising that pharmacists think OTC medicines are not safe enough for pregnancy and breastfeeding, because OTC categories in Thailand are combined household remedies and ready-packed medicines. Some OTC items identify on their labelling that special precaution is needed in pregnancy and breastfeeding, but lay people do not know about this and also think that they are safe to use by themselves. In addition, they can select and purchase them without any suggestion from a healthcare professional.

When asked about breast milk, all pharmacists agreed that breast milk is the best baby food. Surprisingly, 21.9% of pharmacists still disagreed that the baby should receive exclusive breastfeeding until 6 months. The duration of breastfeeding may depend on tradition and culture of mothers. In Thailand, women are allowed to have maternity leave for less than 3 months, so it is difficult to continue breastfeeding more than 3 months. The combination between employment and breastfeeding should be considered to support women to continue breastfeeding such as setting a breastfeeding corner in the work place.

Considering the views of pharmacists about self-care of pregnancy and breastfeeding, all pharmacists agreed that self-care is important for pregnant and breastfeeding women. In addition, most pharmacists agreed that they can support the self-care of pregnant and breastfeeding women, and pregnant and breastfeeding women can use self-medication to treat minor symptoms. Nevertheless, only around 70% of pharmacists agreed that they have the self-confidence and sufficient knowledge to give advice and solve medication and health problems for these women.

Focusing on advice about contraindicated medicines, pharmacists were asked two questions: one question for pregnancy and another for breastfeeding women. Advice to see the doctor was recommended to pregnant women while advice of an alternative safe medicine was suggested to breastfeeding women from most pharmacists. Female pharmacists tended to provide advice on an alternative safe medicine to both women and their babies whilst male pharmacists mostly advised women to see a doctor again.

Summary of the findings relating to self-care theory

Regarding self-care theory which had been covered in chapter 2, many authors tried to described the definition and scope of self-care. It started with a focus only on illness behaviours and extended its scope to behaviours for maintenance of health and well-being. A holistic approach was recently included in the self-care concept. Cultural and traditional beliefs have also been indicated as having an influence on self-care activities.

This study was conducted in Thai society in which the extended family is most common and where people can decide freely to use the different types of healthcare services available to them . Therefore, it can be seen that women's decisions and health behaviours were based on their knowledge and the information which they gathered from different sources especially experienced people. Traditional beliefs also lead their behaviours during

pregnancy and breastfeeding. The concept of treatment was considered as a combination of old and modern. These findings confirm the conceptualisation of self-care in pregnant and breastfeeding women in Thailand that self-care is an individual behaviour to maintain and restore the health and well-being which depends on traditional beliefs and healthcare knowledge as in the self-care assumption of Steiger and Lipson (1985) and the Proprietary Association of Great Britain (2005).

Furthermore, pregnancy and breastfeeding are special times in women's lives. Women on these situations were concerned more about their daily activities because they know their activities can affect the health of their babies. Additionally, healthcare professionals have considered carefully the services which they provided to these women. Community pharmacists are health professionals who provide healthcare services in a local community. Providing advice and giving suitable treatments were the important roles of Thai pharmacists.

This study indicated that pharmacists had a positive attitude about self-care in pregnancy and breastfeeding, and can support self-care behaviours in these groups of women but were not confident about their ability or knowledge. In some instances the advice given was inaccurate and even dangerous, a state of affairs that requires urgent attention.

In summary, the finding confirmed that self-care behaviours in pregnant and breastfeeding women are recognised by both women and community pharmacists. It will be of value that women can behave in appropriate ways and get good support from both their family and health professionals. On the other hand, community pharmacists must understand about culture-based practices and beliefs, and combine their medical knowledge with traditional beliefs to provide suitable information and solve the healthcare issues of pregnant and breastfeeding women. This could increase the safety of self-care and self-medication behaviours in these women.

8.5. Conclusion of the study

The first objective of this study was to investigate self-care activities to improve and maintain health and well-being during pregnancy and breastfeeding. This study found that women during pregnancy and breastfeeding were mostly concerned about everything which can affect the health in both themselves and their babies. They tended to choose activities which can improve health and well-being and avoid harmful activities to protect themselves and their babies. Consumption of healthy food such as fruits and vegetables and drink such as milk were consumed increasingly during pregnancy and breastfeeding. Consequently, the bad habits were also changed, such as smoking, alcohol and caffeine drinks, in order to improve women's health. Most women believed in traditional practices and tried to follow these beliefs, both those with and without reasons.

The second objective was to determine the management of minor symptoms experienced by pregnant and breastfeeding women. On the subject of management of minor ailments, women tried to ignore them and waited for their symptoms to disappear without taking medicines. When women became severely ill, they usually consulted a health professional rather than practising self-medication. Traditional treatments or herbal medicines were mentioned to prevent and treat some symptoms. Experienced people especially mothers or mothers-in-law were the most important sources of support. Antenatal clinics and education after delivery by nurses were also very useful to support the new mothers with their first babies.

The final objective was to identify the knowledge and views of community pharmacists about self-care activities in pregnancy and breastfeeding. Most pharmacists agreed that self-care is important for both pregnant and breastfeeding women and pharmacists can support self-care behaviours in these women. Nonetheless, pharmacists were concerned about the safety of over-the-counter medicines which these women can select and purchase for

themselves. Some pharmacists still lacked the confidence to provide good advice for pregnant and breastfeeding women. Moreover, pharmacists appear to need more support with accurate information from both government and private organizations about pregnancy and breastfeeding.

8.6. Study limitations

In this study, women were asked about their health and minor ailments including their responses to symptoms they had experienced since they started their pregnancy. They tried to answer every question with retrospective thinking without having recorded their behaviours before. Moreover, the duration of the interview was only one to two hours. These women may have forgotten to explain something about their self-care behaviours during the interviews but it is to be hoped that they remembered the most salient points.

In relation to recall difficulties, the observation or keeping diaries of self-care behaviours could start early in pregnancy and continue until the woman stops breastfeeding. The self-care behaviours in motherhood could then present the real situation completely.

Regarding my background in terms of education, pharmacy career, and motherhood experiences, it is possible that they affected the perception of respondents during the interview processes. Women might have only felt comfortable talking about behaviours they thought would be approved of or the behaviours that had less effect on their health and their babies' health. They also might have explained only something that they thought the researcher believes in. Some women might avoid talking about things that make them feel stupid or old fashioned especially those things relating to the medicines.

In anticipating this limitation, I tried to demonstrate that I strongly accepted and respected women's behaviours. The important thing was that I developed an informal relationship between myself and the respondents as

a friend, so the women could feel free to talk about everything without an awareness of my attitude. Hence, I was careful not to show feelings or reveal my attitudes, in order to avoid any bias that might have affected listening to and communicating with the women.

A self-completed questionnaire was used to collect the data from the community pharmacists. They were asked to reveal in writing of the expected services that they would provide for each symptom of pregnant and breastfeeding women. Some of the pharmacists knew the researcher as a lecturer, and consequently, they might have tried to report the correct treatment instead of their real practices.

To confirm the findings, other methods of collecting data could be considered such as using pseudo patients or observation. They could be used alongside a questionnaire to gather the information about the current situation.

8.7. Implications of the study

Self-care practices are considered as important activities during pregnancy and breastfeeding to improve and maintain health and well-being including the relief of minor ailments. From the findings, some self-care practices can promote and improve health during pregnancy and breastfeeding. For example, women change their lifestyles and increase the quality of foods and drink that they consume especially milk. In addition, they avoid taking medication and stop smoking. On the other hand, some self-care activities seemed to contribute to minor ailments or to harm both women and their babies. For instance, exercise was reduced in pregnant women and the limitations of drinking water, and washing hair and body happened after giving birth. Therefore, pregnant and breastfeeding women need to consider carefully the advantages and disadvantages of each activity before practising them in order to protect themselves and their babies. Accurate

and up-to-date information is essential to support suitable behaviours and indicate harmful activities.

This study found that women during pregnancy and breastfeeding still used cultural-based health beliefs and some traditional beliefs are very old concepts. The elderly people have real influence on women's practices during pregnancy and breastfeeding. Most women revealed that they had to stay with their parents or parents-in-law during pregnancy and after giving birth. Consequently, their parents prepared foods and drink, and encouraged them to follow traditional beliefs. As a result, promotion of self-care during pregnancy and breastfeeding in the Thai society requires family members to be included especially mothers and mothers-in-law. These will prevent the conflict between women and their parents over daily practices and women may get support from their parents in appropriate ways.

Most women in this study said they liked to watch videos while waiting in antenatal clinic for their appointments. They received the information which they needed from them. Thus, key health messages on video would be one way of enhancing education about useful and harmful self-care behaviours. In addition, the information book which was received from the hospital was also mentioned as an important source of information. These routes could be considered for supporting women's self-care attitudes and behaviours during pregnancy and breastfeeding.

Herbal medicines were mentioned in this study. Some traditional medicines were used widely to recover and prevent some symptoms during pregnancy and breastfeeding. Most of them are supported by no evidence in pharmaceutical articles to confirm whether they have benefit or can harm women during pregnancy and breastfeeding. Therefore, these medicines should be used with caution in terms of safety and adverse effects which might happen. Reading the medicine labels or leaflets before use should be

promoted for women. It will help to prevent drug misuse and to understand specific indications and precautions.

Community pharmacists reported that the two main roles of Thai community pharmacists are the dispensing medicines and providing advice for pregnant and breastfeeding women. In addition, some pharmacists accepted that they did not feel confident or have sufficient knowledge to giving advice and solving medication problems for pregnant and breastfeeding women. Only a quarter of pharmacists received some support from organizations related to pregnancy and breastfeeding. Consequently, they mostly had to find the information by themselves. Official and up-to-date information and training courses in pregnancy and breastfeeding topic would be of value to help improve the knowledge of community pharmacists for providing services for pregnant and breastfeeding women.

Over-the-counter medicines were mentioned by most pharmacists in that they did not consider them safe enough for pregnant and breastfeeding women. This issue should be considered and may be the category of over-the-counter medicines should be revised. The label or patient information leaflets of over-the-counter medicines should provide the necessary information and inform about any situation where the medicines should not be used. People should also be encouraged to read medicine labels and patient information leaflets before taking any medicines.

8.8 Recommendation

8.8.1 For health care professionals

- The advice of health care professionals should consider both traditional beliefs and the modern health systems.

This study found that women during pregnancy and breastfeeding still used cultural-based health beliefs and behaviours as well as modern health systems. It is very important for the health care professionals to understand and respect women's beliefs and lifestyles. At the same time, health professionals should support and mix their advice with the old traditions to ensure the best treatment of symptoms in both women and their babies.

- Nurses and midwives should arrange the training sessions and provide information for women and their family.

Providing the important information or training sessions, such as exercise for pregnancy, how to prepare the labour, for pregnant women and their family especially husbands, mothers or mothers-in-law might help to guide the suitable practices to improve their health and well-being. In addition, education programmes for women after giving birth should be the concern of nurses and midwives. These programmes will help women - especially first-time mothers - to take care of their babies in appropriate ways.

- Nurses and midwives should provide breastfeeding training practices and promote breastfeeding clinics after delivery.

From the study, it can be seen that all pregnant women had a positive attitude about breastfeeding and expected to breastfeed their babies, but some of them revealed that they had given up breastfeeding by the time of the second interview (a month after giving birth). The main reason was the problem of breastfeeding such as insufficient breast milk. This issue should be the initial concern after delivery of the baby in hospital before discharge.

Appropriately trained nurses should provide training and women could be encouraged to attend postnatal breastfeeding clinics and if problems occur later on.

- Community pharmacists should be more concerned about the quality of products and product information especially herbal medicines before selling.

From the findings, herbal medicines which some women used clearly did not specify ingredients, indications and precautions. They also purchased these medicines in a pharmacy. Therefore, the role of community pharmacists is very important to provide appropriate information and suggestion for women or their family. In addition, community pharmacists should be concerned about the quality of products which they sell in order to prevent unwanted effects for their customers.

- Community pharmacists should promote their roles, their knowledge, and their services to the public.

In this study, most women said that they stopped using self-medication from a pharmacy and decided to go to a doctor when they felt ill. In the same direction, some pharmacists cited that they had provided advice for only a few pregnant and breastfeeding women, so their confidence in providing such advice had decreased. The public should be clearly educated about the roles and health knowledge of community pharmacists. For example, antenatal clinics should provide information and display posters about community pharmacists and promote them as a health professional with a particular expertise in medicines that women can consult outside of the hospital. This might help to get more customers for pharmacies thus enabling community pharmacists to practice their skills and use their knowledge in advising pregnant and breastfeeding women, however it is essential that those pharmacists have up-to-date information. In addition, by working as part of a healthcare team pharmacists might use referral systems to doctor or midwives. This should help to improve the perceived value of

pharmacists in the views of consumers and may encourage health care providers to reimburse community pharmacists for providing an advisory service. Finally, pharmacists should be more present in pharmacies then they would have undoubtedly more opportunities to interact with and to advise and recommend medicines for pregnant and breastfeeding women.

8.8.2 For health organizations

- The health organizations, such as Department of Health, should promote useful activities and indicate harmful practices in self-care during pregnancy and breastfeeding to the public.

This study reported some self-care activities that have an advantage for mothers and babies' health, whilst some activities are a danger to their health. Consequently, the related health organizations should use these findings to provide important information and to promote useful self-care activities which will help women to improve and maintain their health and well-being during pregnancy and breastfeeding. On the other hand, some self-care activities which might harm mothers and their babies should also be highlighted and their dangers advertised. This can be done in several ways such as the use of posters in health care premises, advertising on television or radio, using information videos in antenatal and the proposed breastfeeding clinics, and providing information in mothers and child magazines which are mostly read by pregnant and breastfeeding women.

- The related organizations about breastfeeding should cooperate with other companies where breastfeeding women are working to set policy and facilities for support breastfeeding women in work place.

In the study, some women stated that they must go back to work after three-months maternity leave. They revealed that although they have given exclusive breastfeeding, they decided to use bottle feed in the day time to prepare their baby for when they go to work. This situation would be improved by the introduction of work place policies to support

breastfeeding women. For example, the breastfeeding corner or a refrigerator for keeping breast milk should be put in work place, and a nursery near mother's work place should be considered. They might help to extend the duration of breastfeeding.

- The pharmaceutical organizations should be more concerned about providing information in patient information leaflets or labels on the pharmaceutical items especially over-the-counter and herbal medicines.

Pharmacists in this study were concerned about the safety of over-the-counter medicines for women during pregnancy and breastfeeding. In addition, this study found that herbal medicines which women used had unclear labelling. Labels of medicines and patient information leaflets on the pharmaceutical products should provide adequate information for users. This will help laypeople to select appropriate medicines for themselves. It should be the duty of pharmaceutical companies to produce information leaflets with their products before they are launched on to the market.

- Food and Drug Administration of Thailand should pay more attention about the products which might affect health of mothers and babies.

Thailand's Food and Drug Administration (FDA) is aware about consumer safety when people purchase food and drugs. It should focus on the effects of products for pregnant and breastfeeding women, and their baby. If the harmful side effects may happen, the patient information leaflets should produce a very clear precaution to warn people about that. In addition, the regulations about patient information leaflets for each product could be checked in details.

- A campaign about reading information leaflets before taking medicines and telling pharmacists when you are pregnant or breastfeed before purchasing medicines should be promoted widely.

Such a health promotion campaign may increase the attention of people about their health and safety. Promotion about reading medicine labels before usage should also be established. It might highlight the important topics in leaflets which people could observe or setup guidelines for reading the information leaflets. In addition, people should be encouraged to talk about their conditions, such as pregnancy and breastfeeding their baby, to community pharmacies before receiving any services.

- The organizations which support the practices of community pharmacists such as Pharmaceutical Society, Community pharmacy associations should provide related training and useful information for pharmacists with a view to eradicating incorrect and unsafe recommendations.

Continuing education is important to provide up-to-date information and raise the pharmacists' confidence. The organizations which relate to pregnancy and breastfeeding or support pharmacist performances should help pharmacists to provide good advice to women by providing them with support leaflets and accurate sources of information. An educational intervention should be designed for pharmacists to improve their knowledge around medicines in pregnancy and breastfeeding. Because of the limited time community pharmacists have to access courses, distance learning and online programmes could be developed which would be easier for them to access in their own time.

8.8. Future Research

This study found that most self-care activities which women followed during pregnancy and the breastfeeding period arose from traditional beliefs. Moreover, the preparations of most processes, such as shower and shampoo, special food or dishes, for women during pregnancy and breastfeeding were provided by the older generation. As a result, in-depth interviews with older people might be a useful way to get further details

about self-treatment in pregnant and breastfeeding women. These interviews may provide more information regarding the reasons behind these traditional beliefs.

The traditional beliefs are different in each part of Thailand, so the findings in this study cannot explain all the self-care behaviours in every Thai woman during pregnancy and breastfeeding. Further research with the same objectives could be conducted in different regions. Consequently, clear information regarding self-care practices during pregnancy and breastfeeding throughout Thailand could be introduced by pregnancy and breastfeeding organizations and the Thai government.

Some vegetables or plants were popularly mentioned for use by women during pregnancy and breastfeeding. A study about those plants using scientific analysis could prove whether or not they gave any real benefits when used by pregnant and breastfeeding women.

This survey asked the pharmacists to indicate the current situation in pharmacies and self-select the services they would provide using a paper-based questionnaire. Pseudo customers could be used to confirm the actual services that pharmacists provide to pregnant and breastfeeding women. Moreover, focus groups or in-depth interviews could be used for more detailed data collection to discuss some of the reasons behind the pharmacists' statements.

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APPENDICES

Appendix 1

A sample of permission form for hospital director

23 March 2006

Dear the director of Maharaj Nakorn Chiangmai Hospital

My name is Sathon Boonyaprapa, I am a lecturer at Faculty of Pharmacy, Chiangmai University and I am currently enrolled to complete doctoral studies at Centre for Pharmacy, Health and Society, School of Pharmacy, University of Nottingham in United Kingdom. The objective of my project is to explore self-care activities of pregnant and breastfeeding women and the views of women and community pharmacists in Chiangmai province, Thailand. The outcome of this study will contribute to the understanding of culture-based self-care activities during pregnancy and breastfeeding and give us a picture of self-care in pregnancy and breastfeeding in drugstores. They will help appropriate organisations to make suitable strategies to improve maternal and child health.

I would like to request permission to recruit the ten participants in your hospital antenatal clinic. The women's gestation period will be checked in the hospital visiting records and a staff nurse will initially screen the participants prior to selection. Women will have to match three criteria to be included in this study: women will be in their first pregnancy, they should be more than 34-weeks pregnant and have decided to breastfeed for at least four weeks. The appointments will be made when the participants visit the antenatal clinic in hospital. The informal in-depth interviews will take place in the women's home.

If there are any questions you have related to this research, please do not hesitate to contact me at phone number 053-214102 or mobile phone number 04-1731867.

Sincerely yours,

Sathon Boonyaprapa	Claire Anderson
Investigator	Supervisor
PhD Student	Professor of Social Pharmacy
Centre for Pharmacy, Health and Society Society	Centre for Pharmacy, Health and
School of Pharmacy	School of Pharmacy
University of Nottingham	University of Nottingham
Nottingham NG7 2RD	Nottingham NG7 2RD
United Kingdom	United Kingdom

THE DIRECTOR OF HOSPITAL'S PERMISSION

I have read this permission form. I have had the opportunity to ask questions and have received answers. I understand the intent of the study.

[ ] I give permission for your recruiting process in antenatal clinic of my hospital.

[ ] I do not give permission for your recruiting process in antenatal clinic of my hospital.

Signature _____Director of hospital Date_____

Appendix 2

Consent forms in English and Thai versions

CONSENT FORM

THESIS TITLE: **Self-care in Pregnancy and Breastfeeding : Views of women and community pharmacists in Thailand**

My name is Sathon Boonyaprapa, I am a lecturer at Faculty of Pharmacy, Chiangmai University and I am currently enrolled to complete doctoral studies at Centre for Pharmacy, Health and Society, School of Pharmacy, University of Nottingham in United Kingdom. The objective of my project is to explore self-care activities of pregnant and breastfeeding women in views of women and community pharmacists in Chiangmai province, Thailand. The outcome of this study will contribute to the understanding of culture-based self-care activities during pregnancy and breastfeeding and indicate the real situation of self-care in pregnancy and breastfeeding in drugstores. They will help the related organizations to make suitable strategies to improve maternal and child health.

I invite you to participate in this study which will be conducted using in-depth interviews. This will involve me visiting you at home and the informal interviews will take place during my visit. The interviews will approximately one or two hours and using tape recorded. Some quotes may be used in the research report, but no names will appear on the report and you will not be identified in any way. Research records will be stored securely and only researchers will have access to the records.

If there are any questions you have related to this research, please do not hesitate to contact me at phone number 053-214102 or mobile phone number 04-1731867

PARTICIPANT'S CONSENT

I, _____, have read the above information. I have the opportunity to ask questions and have received answers. I understand the intent of the study. I have received a copy of the consent form. I hereby give permission to be interviewed in-depth by using tape recorded. I participate in this research as volunteer and may withdraw my consent at any time without any penalty. I consent to participate in the study.

Signature_____ Participant Date_____

Signature_____ Researcher Date_____

ใบยินยอมเข้าร่วมการศึกษา

เรื่อง Self-care in Pregnancy and Breastfeeding : Views of women and Community Pharmacists in Chiangmai, Thailand

ดิฉันชื่อนาง สธน บุญญประภา อาจารย์คณะเภสัชศาสตร์ มหาวิทยาลัยเชียงใหม่ ขณะนี้กำลังศึกษาต่อหลักสูตรปริญญาเอก สาขาเภสัชศาสตร์ คณะเภสัชศาตร์ มหาวิทยาลัยน๊อตติ้งแฮม ประเทศอังกฤษ วัตถุประสงค์ของวิทยานิพนธ์คือ ต้องการศึกษาถึงการดูแลรักษาสุขภาพตนเองของสตรีขณะตั้งครรภ์และขณะให้นมบุตรในมุมมองของสตรีและเภสัชกรร้านยาในจังหวัดเชียงใหม่ ผลของการศึกษาครั้งนี้จะทำให้เข้าใจพฤติกรรมการดูแลรักษาสุขภาพตนเองของสตรีขณะตั้งครรภ์และขณะให้นมบุตร และยังสามารถชี้ให้เห็นถึงสถานการณ์ที่เกิดขึ้นจริงในร้านยา เพื่อที่จะเป็นข้อมูลให้แก่หน่วยงานที่เกี่ยวข้องจัดทำโครงการที่เหมาะสมเพื่อส่งเสริมสุขภาพแม่และเด็กต่อไป

ในการศึกษาครั้งนี้ต้องการเก็บข้อมูลจากสตรี 2 ครั้ง คือขณะตั้งครรภ์มากกว่า 34 สัปดาห์ และขณะให้นมบุตรหรือไม่น้อยกว่า 4 สัปดาห์หลังคลอดโดยการสัมภาษณ์เชิงลึกที่บ้านของสตรีผู้ถูกสัมภาษณ์ การสัมภาษณ์จะใช้เวลาประมาณ 1-2 ชั่วโมงขึ้นอยู่กับการสนทนา จะมีการบันทึกการสนทนาที่เกิดขึ้นด้วยเครื่องบันทึกเสียง ข้อมูลที่ได้จะถูกนำไปวิเคราะห์และนำเสนอในภาพรวม ข้อความในการสนทนาบางตอนอาจจะถูกอ้างอิงในรายงานแต่จะไม่ระบุชื่อของผู้ให้สัมภาษณ์แต่อย่างใด ข้อความและเทปที่บันทึกในการสนทนาจะไม่ถูกเผยแพร่ ผู้ทำการศึกษาจะทำการวิเคราะห์ข้อมูลแต่เพียงผู้เดียว

หากท่านมีคำถามที่เกี่ยวข้องกับการศึกษานี้หรือข้อเสนอแนะเพิ่มเติมในอันที่จะมีส่วนทำให้การศึกษาในครั้งนี้มีความสมบูรณ์ยิ่งขึ้น กรุณาติดต่อผู้ทำการศึกษาได้ตลอดเวลา เบอร์โทรศัพท์บ้าน 053-214102 หรือโทรศัพท์มือถือ 04-1731867

ส่วนของผู้ยินยอมเข้าร่วมในการศึกษา

ข้าพเจ้า (ชื่อ)_____ได้อ่านและทำความเข้าใจเกี่ยวกับการศึกษานี้ นอกจากนี้ได้มีโอกาสถามคำถามต่างๆ พร้อมทั้งได้รับคำตอบและคำอธิบายเป็นที่กระจ่าง ข้าพเจ้าได้รับสำเนาใบยินยอมเข้าร่วมการศึกษา ข้าพเจ้ายินดีที่จะให้สัมภาษณ์พร้อมทั้งบันทึกเทปที่บ้านของข้าพเจ้า ข้าพเจ้าได้เข้าร่วมการศึกษาครั้งนี้โดยการสมัครใจ และทราบว่าสามารถถอนตัวได้ทุกเวลาหากข้าพเจ้าไม่ปรารถนาจะเข้าร่วมในการศึกษาต่อไป

ลงชื่อ_____ผู้เข้าร่วมการศึกษา วันที่_____

ลงชื่อ_____ผู้ทำการศึกษา วันที่_____

Appendix 3

Demographic information form for women

In English and Thai versions

Demographic information for participants

Full name_____Age_____ years old Gestation period_____ weeks

Address_____

_____

Home telephone_____ Mobile phone _____

The highest education ☐ none ☐ High vocational certificate

☐ Primary school ☐ Bachelor degree

☐ Secondary school ☐ Higher than Bachelor degree

☐ Vocational certificate ☐ others_____

Average family income per month_____ Baht.

Due date_____

A map indicates your house after delivery for second interview.

ข้อมูลผู้เข้าร่วมการศึกษา

ชื่อและนามสกุล_____อายุ_____ปี อายุครรภ์_____สัปดาห์

ที่อยู่_____

_____

โทรศัพท์บ้าน_____โทรศัพท์มือถือ_____

การศึกษาสูงสุด ☐ ไม่ได้เรียนหนังสือ ☐ ปวส

☐ ประถมศึกษา ☐ ปริญญาตรี

☐ มัธยมศึกษา ☐ สูงกว่าปริญญาตรี

☐ ปวช ☐ อื่นๆ ระบุ_____

รายได้ของครอบครัวเฉลี่ยต่อเดือน_____บาท

กำหนดคลอด_____

<u>แผนที่เยี่ยมบ้านหลังคลอดสำหรับสัมภาษณ์ครั้งที่สอง</u>

Appendix 4

Questionnaire for community pharmacists

In English and Thai versions

Questionnaire
Topic: Self-care in Pregnancy and Breastfeeding
: Views of Community pharmacists in Chiangmai, Thailand

- This questionaire has been develped as part of my PhD research project, School of Pharmacy, University of Nottingham, United Kingdom.
- The objective of this study is to identify the views and experiences of community pharmacists throughout Chiangmai province about self-care in pregnancy and breastfeeding.
- This questionnaire is divided into three parts:
  - Part 1: Your experience in your drugstore about the self-care of pregnant and breastfeeding women
  - Part 2: Your views about the self-care of pregnant and breastfeeding women
  - Part 3: Background information
- The survey should only take you about 10-15 minutes to complete.
- Please answer each question truthfully about your usual practices in the drugstore.
- The results of this study may contribute to indicating the actual situation in drugstores regarding self-care in pregnancy and breastfeeding, and may help policy makers to develop suitable strategies to improve maternal and child health. Your reply will be treated as confidential and analysed as anonymous data.
- Please use the enclosed stamped addressed envelope to return your completed questionnaire.
  Please return it as soon as you can by 1st May 2006 at the latest.
- If there are any questions you have related to this research, please do not hesitate to contact me at phone number 053-214102 or mobile phone number 04-1731867
- **Thank you very much indeed for your cooperation, and my degree depends on your help.**

Mrs.Sathon Boonyaprapa
Investigator and PhD Student
School of Pharmacy
University of Nottingham
United Kingdom

<u>Part 1</u> Experience in drugstore about self-care of pregnant and breastfeeding women

1.1. How many pregnant women receive your services in drugstore per week? .....

(If no experience, please go to 1.4)

1.2. **Please rank <u>the three services</u>** that you give most frequently for pregnant women.

……. Advice about a suitable behaviour such as lifestyle, exercise

……. Recommend vitamin and food supplements

……. Diagnosis and dispensing herbal medicine

……. Diagnosis and dispensing medicine

……. Recommend homeopathy

……. Refer to doctor

……. Others (Please state)……..…….

1.3. Please indicate **<u>two questions or symptoms</u>** which pregnant women most frequently consult you about in your drugstore.

1.)……

2.)……

1.4. How many breastfeeding women receive your services in drugstore per week? ……

(If no experience, please go to 1.8)

1.5. Mostly, how do you know that women who receive your services are breastfeeding? *(Please tick one answer)*

(1) Asking by Pharmacist

(2) Women tell before get the services

(3) Others (Please state)……..

1.6. **Please rank <u>the two services</u>** that you give most frequently for breastfeeding mothers

…….Advice about a suitable behaviour such as lifestyle, exercise

…….Advice about contraception such as contraceptive pill

…….Advice about weight control or lose weight

…….Diagnosis and dispensing herbal medicine

…….Recommend vitamin and food supplement

…….Diagnosis and dispensing medicine

…….Recommend homeotherapy

…….Refer to doctor

…….Others (Please state)…….

1.7. Please indicate **<u>the question or symptom</u>** which breastfeeding women most frequently consult you about in your drugstore.

……..……

1.8. If **pregnant women** take advice from you about their symptoms as listed below. Please tick each one that you usually response *(please tick one service)*. If you choose to dispense medicines or vitamin or herbal medicines, please write the name in the table.

Symptom	Refer to doctor	Provide advice in suitable behaviour	Dispense medicines or vitamin or herbal medicines **Please write the name**	Other service **Please state**
1) Nausea and vomiting				
2) Indigestion				
3) Headache				
4) Backache				
5) Insomnia				
6) Haemorrhoids				
7) Vaginal itching and simple discharge				
8) Diarrhoea				
9) Constipation				
10) Varicose vein				
11) Swelling feet and legs				
12) Leg cramps				
13) Scurvy				
14) Runny nose				
15) Sore throat and throat infection				

1.9. If **breastfeeding women** take advice from you about their symptoms as listed below. Please tick each one that you usually response *(please tick one service)*. If you choose to dispense medicines or vitamin or herbal medicines, please write the name in the table.

Symptom	Refer to doctor	Provide advice in suitable behaviour	Dispense medicines or vitamin or herbal medicines **Please write the name**	Other service **Please state**
1) Sore or cracked nipple				
2) Engorgement				
3) Insufficient milk				
4) Mastitis				
5) Diarrhoea				
6) Constipation				
7) Haemorrhoids				
8) Headache				
9) Runny nose				
10) Sore throat and throat infection				

<u>Part 2</u> Views about self-care of pregnant and breastfeeding women

Please tick one that best describes your own view

5 = Strongly agree
4 = Agree
3 = Neither
2 = Disagree
1 = Strongly disagree

2.1.	Community pharmacists question their customers thoroughly about pregnancy and breastfeeding before dispensing medicines.	(5)	(4)	(3)	(2)	(1)
2.2.	Community pharmacists can support the self-care of pregnant and breastfeeding women.	(5)	(4)	(3)	(2)	(1)
2.3.	Self-care is important for pregnant women.	(5)	(4)	(3)	(2)	(1)
2.4.	Self-care is important for breastfeeding women.	(5)	(4)	(3)	(2)	(1)
2.5.	Community pharmacists cannot promote breastfeeding programmes.	(5)	(4)	(3)	(2)	(1)
2.6.	All pregnant women should take calcium.	(5)	(4)	(3)	(2)	(1)
2.7.	All pregnant women should take folic acid.	(5)	(4)	(3)	(2)	(1)
2.8.	All pregnant women should exercise at least 3 times a week.	(5)	(4)	(3)	(2)	(1)
2.9.	Pregnant women should not use self-medication to treat minor symptom.	(5)	(4)	(3)	(2)	(1)
2.10.	Breastfeeding women can use self-medication to treat minor symptom.	(5)	(4)	(3)	(2)	(1)
2.11.	Over-the-Counter medicines are safe for pregnancy.	(5)	(4)	(3)	(2)	(1)
2.12.	Over-the-Counter medicines are safe for breastfeeding.	(5)	(4)	(3)	(2)	(1)
2.13.	Breast milk is the best baby food.	(5)	(4)	(3)	(2)	(1)
2.14.	Breastfeeding does not improve the health of the baby.	(5)	(4)	(3)	(2)	(1)
2.15.	Baby should receive exclusive breastfeeding until 6 months.	(5)	(4)	(3)	(2)	(1)
2.16.	I am confident about giving advice and counselling to pregnant women.	(5)	(4)	(3)	(2)	(1)
2.17.	I have sufficient knowledge to solve medication and health problem of pregnant women.	(5)	(4)	(3)	(2)	(1)
2.18.	I am not confident about giving advice and counselling to breastfeeding women.	(5)	(4)	(3)	(2)	(1)
2.19.	I have insufficient knowledge to solve medication and health problem of breastfeeding women.	(5)	(4)	(3)	(2)	(1)

2.20. If a pregnant woman wants to buy more of the medicine which she is taking, but you know that it is contraindicated during pregnancy. What advice do you give her? (*please tick one answer*)

(1) Advise an alternative medicine which is more safer.

(2) Advise to stop this medicine immediately.

(3) Advise to see the doctor again.

(4) Others (Please state)……

2.21. After you receive details about breastfeeding woman's symptom, you know that drug of choice is contraindicated during breastfeeding and treatment duration is 3 weeks. She wishes to continue breastfeeding. What advice do you give her?

(please tick one answer)

(1) Advise to stop breastfeeding and explain about necessary to treat with this medicine.

(2) Advise to stop breastfeeding temporarily while taking this medicine.

(3) Advise to take this medicine before breastfeeding at least 2 hours.

(4) Advise an alternative medicine which is more safety.

(5) Advise to see the doctor.

(6) Others (please state)……

2.22. Which the reference sources do you use for information searching about medicines in pregnancy and breastfeeding? (You may tick more than one answer)

(1) Books (2) Journal articles (3) Handout

(4) Website (5) Others (please state)……

2.23. Do you have co-operation or receive assistance from organisation related to pregnancy and breastfeeding?

(1) Yes. What do you get? (*You may tick more than one answer*)

(1) Information leaflet

(2) Training with related topics

(3) Hotline to answer the questions

(4) Others (please state)……

(2) No. Do you want any assistance about the information from organisation related to pregnancy and breastfeeding?

(1) No.

(2) Yes. What do you want? (*You may tick more than one answer*)

(1) Information leaflet

(2) Training with related topics

(3) Hotline to answer the questions

(4) Others (please state)……...

<u>Part 3</u> Background information

Please tick the relevant information

3.1. Gender (1) Male (2) Female

3.2. Age……years old

3.3. Duration of experience as community pharmacist……years

3.4. Highest academic degree (1) Bachelor degree in Pharmacy

(2) Higher degree than Bachelor degree (please state)……

3.5. You or your wife were/was pregnant or are/is pregnant (1) Yes (2) No

3.6. You or your wife were/was breastfeeding or are/is breastfeeding (1) Yes (2)No

3.7. Type of drugstore (1) Stand alone
(2) Chain store
(3) Franchise store

3.8. Location of drugstore (1) Near the market
(2) Near the hospital
(3) Near the community or village
(4) In the department store
(5) Others (please state)……

3.9. Do you sell products to support breastfeeding?

(1) No

(2) Yes (*You may tick more than one answer*)

(1) Breast pumps
(2) Breast pads
(3) Nipple shields
(4) Nipple cream
(5) Others (please state)……

3.10. Do you have information leaflet or brochure to promote health for pregnant and breastfeeding women?

(1) No

(2) Yes from (*You may tick more than one answer*)

(1) Make it by myself
(2) Provincial Public Health Office
(3) Drug company
(4) Organisation (please state)……
(5) Others (please state)……

If you have other comments about the role of Community Pharmacists in health services for pregnant and breastfeeding women, please write in the space below.

Comments…….

……

……

……

……

Thank you for your co-operation in completing this questionnaire.
Your information is very important for the success of this study.

แบบสอบถาม

เรื่อง Self-care in Pregnancy and Breastfeeding : Views of Community Pharmacists in Thailand

คำชี้แจง

- แบบสอบถามนี้จัดทำขึ้นเพื่อเป็นส่วนหนึ่งของวิทยานิพนธ์ หลักสูตรปริญญาเอก สาขาเภสัชศาสตร์ คณะเภสัชศาสตร์ มหาวิทยาลัยน๊อตติ้งแฮม ประเทศอังกฤษ
- วัตถุประสงค์ในการศึกษาครั้งนี้คือ ต้องการศึกษาถึงความคิดเห็นและประสบการณ์ของเภสัชกรร้านยาในจังหวัดเชียงใหม่เกี่ยวกับการดูแลรักษาสุขภาพตนเองของสตรีขณะตั้งครรภ์และขณะให้นมบุตร
- แบบสอบถามมี 3 ส่วนดังนี้
  - ส่วนที่ 1 ประสบการณ์ในร้านยาเกี่ยวกับการดูแลรักษาสุขภาพตนเองของสตรีขณะตั้งครรภ์และขณะให้นมบุตร
  - ส่วนที่ 2 ความคิดเห็นของเภสัชกรเกี่ยวกับการดูแลรักษาสุขภาพตนเองของสตรีขณะตั้งครรภ์และขณะให้นมบุตร
  - ส่วนที่ 3 ข้อมูลทั่วไปของเภสัชกรผู้ตอบแบบสอบถาม
- ในการตอบแบบสอบถามจะใช้เวลาประมาณ 10-15 นาที กรุณาตอบแบบสอบถามตามความคิดเห็นและประสบการณ์ของท่านที่เกิดขึ้นจริง
- ข้อมูลที่ได้จากท่านจะถูกนำไปวิเคราะห์และนำเสนอในภาพรวม โดยจะเก็บข้อมูลเป็นความลับ ไม่เจาะจงว่าเป็นบุคคลใด และจะนำข้อมูลไปใช้ให้เกิดประโยชน์แก่สังคมและส่วนรวมต่อไป
- หากท่านมีคำถามที่เกี่ยวข้องกับการศึกษานี้หรือข้อเสนอแนะเพิ่มเติมในอันที่จะมีส่วนทำให้การศึกษาในครั้งนี้มีความสมบูรณ์ยิ่งขึ้น กรุณาติดต่อผู้ทำการศึกษาได้ตลอดเวลา เบอร์โทรศัพท์บ้าน 053-214102 หรือโทรศัพท์มือถือ 04-1731867
- ผู้ทำการศึกษาได้จัดเตรียมซองพร้อมแสตมป์ เพื่ออำนวยความสะดวกในการที่ท่านจะส่งแบบสอบถามกลับคืน

  ขอความกรุณาส่งแบบสอบถามคืนทันทีที่ท่านกรอกข้อมูลเรียบร้อยแล้วภายใน วันที่ 1 พฤษภาคม 2549
- **ผู้ทำการศึกษาขอขอบพระคุณเภสัชกรทุกท่านที่กรุณาให้ความร่วมมือในการตอบแบบสอบถาม**

ภญ.สธน บุญญประภา
ผู้ทำการศึกษา และ นักศึกษาปริญญาเอก
คณะเภสัชศาสตร์ มหาวิทยาลัยน๊อตติ้งแฮม
ประเทศอังกฤษ

<u>ส่วนที่ 1</u> ประสบการณ์ในร้านยาเกี่ยวกับการดูแลรักษาสุขภาพตนเองของสตรีขณะตั้งครรภ์และขณะให้นมบุตร

1.1. จำนวนสตรีมีครรภ์ที่มารับบริการในร้านยาของท่านเฉลี่ยต่อสัปดาห์.....คน
(ถ้าไม่มีกรุณาทำข้อ 1.4 ต่อ)

1.2. กรุณาเรียงลำดับ **<u>3 อันดับแรก</u>**ของการบริการที่ท่านมักจะให้แก่สตรีมีครรภ์
.....แนะนำเกี่ยวกับการปฏิบัติตัว เช่น การดำเนินชีวิตประจำวัน การออกกำลังกาย
.....วินิจฉัยโรคและจ่ายยาแผนโบราณ (สมุนไพร) รักษาตามอาการ
.....วินิจฉัยโรคและจ่ายยาแผนปัจจุบันรักษาตามอาการ
.....แนะนำวิธีการรักษาอาการโดยวิธีธรรมชาติบำบัด
.....แนะนำวิตามินหรือผลิตภัณฑ์อาหารเสริม
.....ส่งต่อแพทย์
.....อื่นๆ ระบุ.....

1.3. กรุณาระบุ**<u>คำถาม/ อาการ/โรค 2 อันดับแรก</u>**ที่สตรีมีครรภ์มักจะมาปรึกษาท่านที่ร้านยา
.....
.....

1.4. จำนวนสตรีที่กำลังให้นมบุตรมารับบริการในร้านยาของท่านเฉลี่ยต่อสัปดาห์.....คน
(ถ้าไม่มี กรุณาทำข้อ 1.8 ต่อ)

1.5. โดยส่วนใหญ่ท่านทราบได้อย่างไรว่าสตรีที่มาขอรับบริการในร้านยาของท่านกำลังให้นมบุตรอยู่
(1) ทราบโดยเภสัชกรเป็นผู้ถาม
(2) ทราบจากสตรีเป็นผู้บอกก่อน
(3) อื่นๆ ระบุ.....

1.6. กรุณาเรียงลำดับ **<u>2 อันดับแรก</u>**ของการบริการที่ท่านมักจะให้แก่สตรีที่กำลังให้นมบุตร
..... วินิจฉัยโรค และจ่ายยาแผนโบราณ (สมุนไพร) รักษาตามอาการ
..... แนะนำเกี่ยวกับการปฏิบัติตัวและการดำเนินชีวิตประจำวัน
..... วินิจฉัยโรค และจ่ายยาแผนปัจจุบันรักษาตามอาการ
..... แนะนำวิธีการรักษาอาการโดยวิธีธรรมชาติบำบัด
..... แนะนำวิธีการคุมกำเนิด เช่น ชนิดของยาคุมกำเนิด
..... แนะนำวิธีการควบคุมน้ำหนักหรือลดน้ำหนัก
..... แนะนำวิตามินหรือผลิตภัณฑ์อาหารเสริม
..... ส่งต่อแพทย์
..... อื่นๆ ระบุ.....

1.7. กรุณาระบุ**<u>คำถาม/ อาการ/โรค</u>** ที่สตรีที่กำลังให้นมบุตรมักจะมาปรึกษาท่านที่ร้านยา**<u>มากที่สุด</u>**
.....

1.8. หากสตรีมีครรภ์มาขอรับบริการที่ร้านยาของท่านด้วยอาการต่อไปนี้ หลังจากที่ท่านได้ซักถามอาการและซักประวัติเรียบร้อยแล้ว กรุณาทำเครื่องหมาย ✓ ลงในตารางที่ตรงกับการบริการที่ท่านมักจะให้บริการในแต่ละอาการ**มากที่สุด** (เลือกตอบเพียง 1 ข้อ) และหากท่านเลือกที่จะจ่ายยาหรือวิตามินหรือสมุนไพร **กรุณาระบุชื่อยาหรือวิตามิน**ลงในตารางที่เว้นไว้

อาการ	ส่งต่อแพทย์	แนะนำการปฏิบัติตัวโดยไม่จ่ายยาใดๆ	จ่ายยาหรือวิตามินหรือสมุนไพร **โปรดระบุชื่อ**	อื่นๆ **โปรดระบุ**
1) คลื่นไส้อาเจียน				
2) อาหารไม่ย่อย				
3) ปวดศีรษะ				
4) ปวดหลัง				
5) นอนไม่หลับ				
6) ริดสีดวง				
7) ตกขาวและคันในช่องคลอด				
8) ท้องเสีย				
9) ท้องผูก				
10) เส้นเลือดขอด				
11) เท้าและขาบวม				
12) ตะคริว				
13) เลือดออกตามไรฟัน				
14) มีน้ำมูกใสและคัดจมูก				
15) เจ็บคอ เสมหะเขียวข้น				

1.9. หากสตรีที่กำลังให้นมบุตรมาขอรับบริการที่ร้านยาของท่านด้วยอาการต่อไปนี้ หลังจากที่ท่านได้ซักถามอาการและซักประวัติเรียบร้อยแล้ว กรุณาทำเครื่องหมาย ✓ ลงในตารางที่ตรงกับการบริการที่ท่านมักจะให้บริการในแต่ละอาการ**<u>มากที่สุด</u>** (เลือกตอบเพียง 1 ข้อ) และหากท่านเลือกที่จะจ่ายยาหรือวิตามินหรือสมุนไพร **<u>กรุณาระบุชื่อยาหรือวิตามิน</u>**ลงในตารางที่เว้นไว้

อาการ	ส่งต่อแพทย์	แนะนำการปฏิบัติตัวโดยไม่จ่ายยาใดๆ	จ่ายยาหรือวิตามินหรือสมุนไพร **โปรดระบุชื่อ**	อื่นๆ **โปรดระบุ**
1) หัวนมแตก				
2) คัดเต้านม				
3) น้ำนมไหลน้อย				
4) เต้านมอักเสบ (Mastitis)				
5) ท้องเสีย				
6) ท้องผูก				
7) ริดสีดวง				
8) ปวดศีรษะ				
9) มีน้ำมูกใสและคัดจมูก				
10) เจ็บคอ เสมหะเขียวข้น				

<u>ส่วนที่ 2</u> ความคิดเห็นของเภสัชกรเกี่ยวกับการดูแลรักษาตนเองของสตรีขณะตั้งครรภ์และขณะเลี้ยงลูกด้วยนมแม่

กรุณาทำเครื่องหมาย ✓ ใน ( ) ที่ตรงกับความคิดเห็นของท่านเกี่ยวกับข้อความต่อไปนี้

5 หมายความว่า เห็นด้วยอย่างยิ่ง

4 หมายความว่า เห็นด้วย

3 หมายความว่า ไม่แน่ใจ

2 หมายความว่า ไม่เห็นด้วย

1 หมายความว่า ไม่เห็นด้วยอย่างยิ่ง

2.1.	เภสัชกรจะต้องสอบถามเพื่อระบุให้ได้ว่าสตรีที่มาซื้อยานั้นกำลังตั้งครรภ์หรือให้นมบุตรอยู่หรือไม่ก่อนจ่ายยาทุกครั้ง	(5)	(4)	(3)	(2)	(1)
2.2.	เภสัชกรร้านยาสามารถสนับสนุนการดูแลรักษาสุขภาพของสตรีมีครรภ์และสตรีที่กำลังให้นมบุตร	(5)	(4)	(3)	(2)	(1)
2.3.	การดูแลรักษาสุขภาพของตนเองมีความสำคัญในสตรีมีครรภ์	(5)	(4)	(3)	(2)	(1)
2.4.	การดูแลรักษาสุขภาพของตนเองมีความสำคัญในสตรีที่กำลังให้นมบุตร	(5)	(4)	(3)	(2)	(1)
2.5.	เภสัชกรร้านยาไม่สามารถช่วยส่งเสริมการเลี้ยงลูกด้วยนมแม่ได้	(5)	(4)	(3)	(2)	(1)
2.6.	สตรีมีครรภ์ทุกคนควรรับประทาน Calcium	(5)	(4)	(3)	(2)	(1)
2.7.	สตรีมีครรภ์ทุกคนควรรับประทาน Folic acid	(5)	(4)	(3)	(2)	(1)
2.8.	สตรีมีครรภ์ทุกคนควรออกกำลังกายอย่างน้อยอาทิตย์ละ 3 ครั้ง	(5)	(4)	(3)	(2)	(1)
2.9.	สตรีมีครรภ์ไม่สามารถใช้ยารักษาตนเองได้หากมีการเจ็บป่วยเล็กน้อย	(5)	(4)	(3)	(2)	(1)
2.10.	สตรีที่กำลังให้นมบุตรสามารถใช้ยารักษาตนเองหากมีการเจ็บป่วยเล็กน้อย	(5)	(4)	(3)	(2)	(1)
2.11.	ยาแผนปัจจุบันบรรจุเสร็จเป็นยาที่ปลอดภัยสำหรับสตรีมีครรภ์	(5)	(4)	(3)	(2)	(1)
2.12.	ยาแผนปัจจุบันบรรจุเสร็จเป็นยาที่ปลอดภัยสำหรับสตรีที่กำลังให้นมบุตร	(5)	(4)	(3)	(2)	(1)
2.13.	นมแม่เป็นอาหารทารกที่ดีที่สุด	(5)	(4)	(3)	(2)	(1)
2.14.	การให้นมแม่ไม่มีผลต่อสุขภาพของทารก	(5)	(4)	(3)	(2)	(1)
2.15.	ทารกควรได้รับนมแม่อย่างเดียวตั้งแต่แรกเกิดจนถึง 6 เดือน	(5)	(4)	(3)	(2)	(1)
2.16.	ท่านมีความมั่นใจที่จะให้คำปรึกษาแนะนำแก่สตรีมีครรภ์	(5)	(4)	(3)	(2)	(1)
2.17.	ท่านมีความรู้เพียงพอที่จะช่วยแก้ไขปัญหาเกี่ยวกับยาและสุขภาพของสตรีมีครรภ์	(5)	(4)	(3)	(2)	(1)
2.18.	ท่านไม่มีความมั่นใจที่จะให้คำปรึกษาแนะนำแก่สตรีที่กำลังให้นมบุตร	(5)	(4)	(3)	(2)	(1)
2.19.	ท่านขาดความรู้ที่จะช่วยแก้ไขปัญหาเกี่ยวกับยาและสุขภาพของสตรีที่กำลังให้นมบุตร	(5)	(4)	(3)	(2)	(1)

2.20. หากสตรีมีครรภ์มาขอซื้อยาที่รับประทานอยู่ แต่ท่านพบว่าตัวยาระบุเป็น Contraindication ในสตรีมีครรภ์ ท่านจะแนะนำอย่างไร *(เลือกตอบเพียง 1 ข้อ)*

(1) แนะนำยาตัวอื่นที่ปลอดภัยกว่าแต่สรรพคุณใกล้เคียงกัน

(2) แนะนำให้ไปพบแพทย์อีกครั้งก่อนรับประทานยาต่อ

(3) แนะนำให้หยุดยานั้นทันที

(4) อื่นๆ ระบุ.....

2.21. หลังจากที่ท่านได้ซักถามอาการต่างๆ จากสตรีผู้หนึ่งซึ่งกำลังให้นมบุตรอยู่ ท่านพบว่าตัวยาที่จะใช้รักษาอาการนั้น (Drug of choice) ถูกระบุว่าเป็น Contraindication ในสตรีที่ให้นมบุตร มีระยะเวลาการรักษาประมาณ 3 อาทิตย์ และสตรีผู้นี้ปรารถนาที่จะให้นมบุตรต่อไป ท่านจะแนะนำอย่างไร *(เลือกตอบเพียง 1 ข้อ)*

(1) แนะนำยาอื่นที่สามารถใช้รักษาอาการนี้ได้ และมีผลกับสตรีให้นมบุตรน้อยกว่า

(2) แนะนำหยุดการให้นมแม่ พร้อมทั้งอธิบายถึงความจำเป็นในการใช้ยานี้

(3) แนะนำให้รับประทานยาห่างจากการให้นมบุตร อย่างน้อย 2 ชั่วโมง

(4) แนะนำให้หยุดนมแม่ชั่วคราวไปก่อนในช่วงที่รับประทานยา

(5) แนะนำให้ไปพบแพทย์

(6)อื่นๆ ระบุ.....

2.22. ข้อมูลจากแหล่งใดที่ท่านใช้ค้นข้อมูลเกี่ยวกับยาในสตรีมีครรภ์และสตรีที่กำลังเลี้ยงลูกด้วยนมแม่ *(เลือกตอบได้มากกว่า 1 ข้อ)*

(1) หนังสือ (2) บทความจากวารสาร (3) เอกสารประกอบการอบรม

(4) เวปไซต์

(5) อื่นๆ ระบุ.....

2.23. ท่านมีความร่วมมือหรือได้รับการสนับสนุนจากหน่วยงานที่เกี่ยวข้องกับสตรีมีครรภ์และสตรีที่กำลังเลี้ยงลูกด้วยนมแม่หรือไม่

(1) มี ในรูปแบบ *(เลือกตอบได้มากกว่า 1 ข้อ)*

(1) เอกสาร หรือแผ่นพับ

(2) อบรมความรู้ที่เกี่ยวข้อง

(3) Hotline ช่วยตอบคำถามต่างๆ

(4) อื่นๆ ระบุ.....

(2) ไม่มี ท่านต้องการให้หน่วยงานที่เกี่ยวข้องกับสตรีมีครรภ์และสตรีที่กำลังเลี้ยงลูกด้วยนมแม่ เข้ามามีบทบาทหรือให้ข้อมูลต่างๆ เพิ่มเติมแก่ท่านหรือไม่

(1) ไม่ต้องการ

(2) ต้องการในรูปแบบ *(เลือกตอบได้มากกว่า 1 ข้อ)*

(1) เอกสาร หรือแผ่นพับ

(2) อบรมความรู้ที่เกี่ยวข้อง

(3) Hotline ช่วยตอบคำถามต่างๆ

(4) อื่นๆ ระบุ.....

<u>ส่วนที่ 3</u> ข้อมูลทั่วไปของเภสัชกรผู้ตอบแบบสอบถาม

กรุณาทำเครื่องหมาย ✓ ใน ( ) ที่ตรงกับข้อมูลของท่านตามความเป็นจริง

3.1. เพศ (1) ชาย (2) หญิง

3.2. อายุ .....ปี

3.3. ระยะเวลาในการทำงานในฐานะเภสัชกรร้านยา.....ปี

3.4. การศึกษาสูงสุด (1) ปริญญาตรีเภสัชศาสตร์

(2) สูงกว่าปริญญาตรี (1) เภสัชศาสตร์สาขา.....

(2) อื่นๆ ระบุ.....

3.5. ท่านหรือภรรยาของท่านเคยมีประวัติตั้งครรภ์ (1) ใช่ (2) ไม่ใช่

3.6. ท่านหรือภรรยาของท่านเคยมีประวัติเลี้ยงลูกด้วยนมแม่ (1) ใช่ (2) ไม่ใช่

3.7. ประเภทของร้านยาของท่าน (1) ร้านยาเดี่ยว

(2) ร้านยาลูกโซ่ (Chain store)

(3) ร้านยาเฟรนไชส์ (Franchise store)

3.8. ทำเลที่ตั้งร้านยาของท่าน (1) ใกล้ตลาด

(2) ใกล้โรงพยาบาล

(3) ใกล้หมู่บ้านหรือชุมชน

(4) ในห้างสรรพสินค้า

(5) อื่นๆ ระบุ.....

3.9. ร้านยาของท่านจำหน่ายอุปกรณ์ที่ช่วยสนับสนุนสตรีที่กำลังให้นมบุตรหรือไม่

(1) ไม่มี

(2) มี ได้แก่ *(เลือกตอบได้มากกว่า 1 ข้อ)*

(1) ที่ปั๊มนมหรือเครื่องปั๊มนม (Breast pumps)

(2) แผ่นซับน้ำนม (Breast pads)

(3) หัวนมปลอม (Nipple shields)

(4) ครีมทาหัวนม (Nipple cream)

(5) อื่นๆ ระบุ.....

3.10. ร้านยาของท่านมีเอกสารหรือแผ่นพับเผยแพร่ความรู้ให้แก่สตรีมีครรภ์และสตรีที่กำลังให้นมบุตรหรือไม่

(1) ไม่มี

(2) มี ได้มาจาก *(เลือกตอบได้มากกว่า 1 ข้อ)*

(1) จัดทำขึ้นเอง

(2) สำนักงานสาธารณสุขจังหวัด

(3) บริษัทยา

(4) หน่วยงานระบุ.....

(5) อื่นๆ ระบุ.....

กรุณากรอกลงในที่ว่างด้านล่างนี้ หากท่านมีความคิดเห็นหรือข้อเสนอแนะเพิ่มเติม เกี่ยวกับบทบาทเภสัชกรร้านยากับการให้บริการแก่สตรีมีครรภ์และสตรีขณะให้นมบุตร อันจะมีส่วนช่วยให้การศึกษาครั้งนี้มีความสมบูรณ์ยิ่งขึ้น

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ขอขอบพระคุณที่ท่านให้ความร่วมมือในการกรอกแบบสอบถาม

ข้อมูลของท่านมีความสำคัญยิ่งในการทำให้การศึกษาครั้งนี้ประสบความสำเร็จ

Appendix 5

Glossary ingredients of medicines

Glossary ingredients of medicines (*MIMS: Thailand* 2004)

Name	Ingredients
Anusol®	Peru balsam 1.87%, benzyl benzoate 1.25%, bismuth oxide 0.87%, bismuth subgallate 2.25%, resorcinol 0.87%, Zn oxide 10.75%
Antacil® suspension	Per 15ml Aluminium hydroxide 960 mg, Magnesium Hydroxide 330 mg and Simethicone 60 mg
Bepanthen® ointment	Dexpanthenol
Carminative mixture	Per 15 ml Strong ginger tincture 0.24 ml, Camphor spirit 0.30 ml, Compound Cardamom tincture 1.8 ml and Capsicum Tincture 0.06 ml
Daflon® tablet	Micronized purified flavonoid fraction 500 mcg (corresponded to diosmin 450 mcg, flavonoids expressed as hesperidine 50 mg)
Dicloxacillin	Antibiotic in Penicillin group
Fybogel®	Ispaghula husk
Hirudoid® cream	Mucopolysaccharide polysulfate 25,000 u
Kaopectal®	Per oz Kaolin 4.67g, pectin 0.26 g
Magesto-F® tablet	Mamylase 37.5 mg, diastase 25 mg, vitamin B1 0.75 mg, scopolia extract 2.5 mg, Na bicarbonate 50 mg, Ca carbonate 200 mg, cinnamon oil 0.3 mg, clove oil 0.3 mg, fennel oil 0.3 mg, ginger oil 0.4 mg, orange peel oil 0.4 mg, menthol 1 mg, $Al(OH)_3$ gel 36.635 mg
Polyenzyme® tablet	Diastase 125 mg, papain 25 mg, pancreatin 100 mg, vit B1 2mg, nicotinamide 25 mg, diphenhydramine HCl 12.5 mg, homatropin methylbromide 1.25 mg, simethicone 25 mg, activated charcoal 75 mg
Reparil® tablet	Amorphous aescin
Reparil® gel	Per 100 g Aescin 1 g, Aescin Na polysulfate 1 g, diethylamine salicylate 5 g
Roxithromycin	Antibiotic in Macrolide group
Scheriproct®	Prednisolone caproate 1.3 mg, cinchocaine HCl 1 mg, clemizole undecylate 5 mg
Senokot®	Sennosides A&B standardized equivalent to 7.5 mg sennoside B
Smecta®	Dioctahedral smectite
Unison enema®	NaCl 15% Solution