การเสริมสร้างการรับรู้เกี่ยวกับโรคมะเร็งเต้านม การรับรู้สมรรถนะแห่งตน และการปฏิบัติการตรวจเต้านมด้วยตนเอง ของสตรีไทยมุสลิม ต. ฉลุง อ. หาดใหญ่ โดยใช้รูปแบบการสอนที่สอดคล้องกับวัฒนธรรม

Enhancing Breast Self-Examination Perception, Self-Efficacy, and Practice Among Thai Muslim Women in Chalung District Using a Culturally Sensitive Educational Program

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กิตติกรรมประกาศ

รายงานการวิจัยครั้งนี้ เป็นส่วนหนึ่งของวิทยานิพนธ์พยาบาลศาสตรดุษฎีบัณฑิต ผู้วิจัยขอกราบขอบพระคุณคณะกรรมการที่ปรึกษาวิทยานิพนธ์ ผู้ช่วยศาสตราจารย์ สุจิตรา เทียนสวัสดิ์ รองศาสตราจารย์ สุสัณหา ยิ้มแย้ม และผู้ช่วยศาสตราจารย์ ทิพาพร วงศ์หงส์กุล ที่ได้ชี้แนะแนวทางการศึกษาที่เหมาะสม พร้อมทั้งให้คำแนะนำและข้อเสนอแนะที่มีประโยชน์

การดำเนินงานวิจัยครั้งนี้ สามารถสำเร็จลุล่วงไปได้ด้วยดี ด้วยความร่วมมือร่วมใจจากผู้ช่วยนักวิจัยซึ่งเป็นเจ้าหน้าที่สาธารณสุขประจำสถานีอนามัยตำบลฉลุง และ ผู้ร่วมวิจัยซึ่งเป็นอาสาสมัครสาธารณสุขประจำหมู่บ้าน และสตรีไทยมุสลิม บ้านม่วงค่าย ตำบลฉลุง อำเภอหาดใหญ่ จังหวัดสงขลา นอกจากนี้ สถาบันวิจัยระบบสาธารณสุข (สวรส.) ได้ให้ทุนสนับสนุนการดำเนินการวิจัยบางส่วน ผู้วิจัยขอกราบขอบพระคุณมา ณ ที่นี้ด้วย

ผู้วิจัย

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บทคัดย่อ

การวิจัยครั้งนี้ มีวัตถุประสงค์เพื่อพัฒนาโปรแกรมการสอนที่สอดคล้องกับวัฒนธรรม เพื่อเสริมสร้างการรับรู้เกี่ยวกับการตรวจเต้านมด้วยตนเอง การรับรู้สมรรถนะแห่งตน และการปฏิบัติ สำหรับสตรีไทยมุสลิม โดยใช้กระบวนการวิจัยเชิงปฏิบัติการชนิดความร่วมมือในเชิงวิชาการ ผู้ร่วมวิจัยประกอบด้วย เจ้าหน้าที่สาธารณสุขประจำสถานีอนามัย 2 ราย อาสาสมัครสาธารณสุขประจำหมู่บ้านซึ่งเป็นไทยมุสลิม 16 ราย และ สตรีไทยมุสลิมจำนวน165 ราย

ผลการวิจัยพบว่า โปรแกรมควรประกอบด้วยส่วนประกอบที่สำคัญ ได้แก่ 1) ผู้สื่อข่าวด้านสุขภาพ ควรเป็นบุคคลท้องถิ่น 2) ข่าวสารสุขภาพเกี่ยวกับการตรวจเต้านมด้วยตนเอง ที่ได้ปรับปรุงให้มีความเชื่อมโยงกับการดูแลร่างกายตามหลักศาสนาอิสลาม และ 3) กลวิธีการส่งข่าวสาร ควรมีการผสมผสานการสนทนาจูงใจและการฝึกปฏิบัติการตรวจเต้านมด้วยตนเอง โดยคำนึงถึงความเหมาะสมในเรื่องสถานที่ เวลา จำนวนผู้เข้าร่วมกลุ่ม และภาษาที่ใช้

ผลการนำโปรแกรมไปทดลองใช้ พบว่า การรับรู้ประโยชน์ของการตรวจเต้านมด้วยตนเอง การรับรู้สมรรถนะแห่งตนในการตรวจเต้านมด้วยตนเอง และพฤติกรรมการตรวจเต้านมด้วยตนเองของสตรีไทยมุสลิม เพิ่มขึ้นอย่างมีนัยสำคัญทางสถิติที่ระดับ $p < .05$, $p < .001$, และ $p < .001$ ตามลำดับ การรับรู้อุปสรรคของการตรวจเต้านมด้วยตนเองลดลงอย่างมีนัยสำคัญทางสถิติที่ระดับ $p < .001$ การปฏิบัติการตรวจเต้านมด้วยตนเองเพิ่มขึ้นจากร้อยละ 18.4 เป็นร้อยละ 92.0 การวิจัยครั้งนี้แสดงให้เห็นถึงความจำเป็นในการพัฒนาโปรแกรมการสอนที่สอดคล้องกับวัฒนธรรมในการส่งเสริมสุขภาพสตรีไทยมุสลิม และเป็นแนวทางหนึ่งในการปฏิบัติการพยาบาลในกลุ่มประชากรที่มีความแตกต่างทางวัฒนธรรม

คำสำคัญ: โปรแกรมการสอนที่สอดคล้องกับวัฒนธรรม, การตรวจเต้านมด้วยตนเอง, สตรีไทยมุสลิม

Abstract

The purpose of this study was to develop a culturally sensitive educational program for enhancing breast self-examination perception, self-efficacy, and practice of Thai Muslim women. Action research using a technical-collaborative approach was conducted among three groups of participants including: two primary health care providers, sixteen Thai Muslim village health volunteers, and 165 Thai Muslim women.

The findings identified three essential program components including; 1) health messenger, who carried out BSE information to the villagers, should be a Thai Muslim woman, accepted by the villagers as being knowledgeable and skillful in BSE, and having the ability to conduct small group activities; 2) health messages, culturally appropriated BSE information, which was communicated by four educational materials; and 3) appropriate activities implemented by integrating motivational conversation and BSE skill training concerning place, time, number of participants, and language.

The results of the program evaluation showed statistically significant differences between pre-test and posttest in the perceived benefits of BSE ($p < .05$), perceived barriers of doing BSE ($p < .001$), BSE self-efficacy ($p < .001$), and BSE proficiency ($p < .001$). The BSE practice among participants rose from 18.4 % to 92.0 %. This research study demonstrates the need for development and implementation of a culturally sensitive educational program for delivering preventive health information to Thai Muslim women and could guide nurses in working with culturally diverse populations.

Keywords: Culturally Sensitive Educational Program, Breast Self-examination, Thai Muslim Women

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CHAPTER 1

Introduction

Background and Significance of the Research Problem

Breast cancer is a major health problem with a profound individual impact in terms of life expectancy and quality of life, as well as societal impact in terms of economic burden (Vahabi, 2003). Among Thai women, breast cancer is a significant cause of death. In 1999, the incidence rate is 14.8:100,000 (The Ministry of Public Health of Thailand, 2000); and 1,261 Thai women died as a result of breast cancer in 2001 (The Ministry of Public Health of Thailand, 2001). In the south of Thailand, breast cancer is the second most common type of cancer among women (Public Health Office of Songkhla, 2000). The number of cases of breast cancer increases every year. Age standardized rate (ASR) of the population who have breast cancer was 12.7:100,000 in 1998, and increased to 16.1:100,000 in 2000 (Tumor Registry Cancer Unit of Songklanakarind Hospital, 2001).

Although breast cancer can be cured and patients have a high survival rate if it is detected at an early stage, most of the patients are more likely to be diagnosed with breast cancer in the advanced stages of the disease. The Tumor Registry Cancer Unit of Songklanakarind Hospital (2001) reported that 37.1%, 16.9% and 12.7% of new cases were diagnosed with breast cancer in stage II, stage IV, and stage III, respectively. Thus, the high mortality rate is, in part, because of diagnosis of the disease in the later stages.

Early treatment is beneficial, as long-term survival is quite low when the disease is diagnosed in advanced or metastasis stages. The decrease in mortality may be related to early detection of the disease. Thus, efforts in reducing breast cancer mortality have focused on early diagnosis of the disease to allow more effective and less aggressive treatments (National Cancer Institute of Canada [NCIC], 2001 cited in Vahabi, 2003). According to the American Cancer Society (ACS) (2002), three methods, including mammogram, clinical breast examination (CBE), and breast self-examination (BSE), are recommended for breast cancer screening, which has been proven to be the most effective way to lower mortality. Although mammography is the most sensitive screening method, findings of many studies have indicated that most masses have been discovered by women themselves (Benedict, Williams, & Baron, 1994; Benedict, Williams, & Hoomani, 1996; Gross, 2000). In addition, BSE is a cost-free health practice under a woman's control that can be practiced by women of any age (Glenn & Moor, 1990). It is a relatively easy, simple, painless, noninvasive, self-care action, which can be performed in privacy (Atkins, Solomon, Worden & Foster, 1991; Ku, 2001; Persson, Svensson & Ek, 1997; Semiglazov, Sagaidak, Moiseyenko, & Mikhailov, 1993; Vahabi, 2003).

Nevertheless, the findings of the recent researches revealed that there has been a failure to clearly show the benefits from BSE instruction and regular performance of BSE (Humphrey, Helfand, Chan, & Woolf, 2002; Baxter, 2001). In addition, the effectiveness of BSE is limited according to the examiner's skill and depends highly on the proficiency of the examiner (Vahabi, 2003). However, regular BSE practice remains a fundamental part of breast cancer screening because if this procedure is performed properly, it could have the added value of other screening

modalities in reducing the cases of breast cancer mortality (Champion, 1992; Newcomb et al., 1991; Recer, 2002; Solomon, Mickey, Rairikar, Worden, & Flynn; 1998; Vahabi, 2003). The ACS and the National Cancer Institute recommend that women practice monthly BSE as a mean of breast cancer prevention, in addition to regular mammogram and CBE (ACS, 2002).

Moreover, Semiglazov et al. (1993) and Anderson et al. (2003) stated that BSE may be particularly suitable for countries which cannot afford the implementation of sophisticated screening services, thus putting the entire female population at risk. The national health promotion policy of Thailand also emphasizes public health education and health awareness, which can be achieved in simple and cost-effective ways. In Western countries, breast cancer screening emphasized on mammography. However, it is not available to most Thai women because this service is too expensive for general Thai women. Mammogram services are utilized for diagnosis in stead of screening. Consequently, BSE practice is a basic way for Thai women to detect breast cancer early, and to reduce the number of women that are diagnosis at an advanced stage of the disease (Maipang, 2001), particularly true in the vulnerable population living in remote areas.

The national policy of the Ministry of Public Heath of Thailand encourages Thai women to perform a BSE regularly; nevertheless, the findings of previous studies revealed that only 10-30 % of Thai women had performed BSE on a monthly basis (Chanakok, Wonghongkul, & Mahawan, 2002a; Gangkatkit, Rabeab & Aeamruksa, 1999; Nakarit, 1998; Sunjorn, 2002). The findings of previous descriptive studies identified various factors related to BSE practice among Thai women. There were knowledge of breast cancer and BSE (Nakarit, 1998; Potaya, 1989; Sunjorn,

2002), receiving information about BSE (Gangkatkit et al., 1999; Nakarit, 1998; Sunjorn, 2002), physician's recommendation to perform BSE, family and social encouragement (Sunjorn, 2002), perception about breast cancer and BSE practice including perceived susceptibility to breast cancer, perceived severity of breast cancer, perceived benefits of BSE, perceived barriers to performing the BSE (Gangkatkit et al., 1999; Potaya, 1989; Sunjorn, 2002), and women's self-confidence to perform BSE (Nakarit, 1998). In addition, demographic characteristics that influenced BSE practice of Thai women included educational level, occupation (Mahanupap, Leksawat, & Tangoumnauy, 1998; Potaya, 1989), age (Mahanupap et al., 1998; Sunjorn, 2002), income (Sunjorn, 2002), the residential area (Mahanupap et al., 1998), the experience of having breast disease (Gangkatkit et al., 1999), and religion (Sunjorn, 2002).

Thai Muslims are a large minority population in Thailand. Muslims in the south of the country account for approximately 80% of the total current Thai Muslim population (Yusuf, 1999). Most of them live in the southernmost provinces of Narathiwat, Pattani, Yala, Satun, and some districts of Songkla (Mahidol University, 2003). The Muslims in these provinces account for between approximately 70% and 90% of the provincial population. The same as Thai women in general, Pethsirason (2002) reported that only 23% of Muslim Thai women in southern Thailand had performed BSE monthly. The finding of the study showed that the combination of cue to action, perceived barriers, education, and perceived self-efficacy could significantly accounted for 29.5 % of the variation in BSE behavior. The author mentioned that subject's education was related to BSE practice. The subjects who had known about BSE had received information from a public health worker who was familiar with the

language and culture of Muslims. Thus, the author recommended providing effective health education programs on BSE to in relation to their indigenous language and culture.

The findings of previous studies in other countries have identified several factors related to BSE practices among Muslim women. The factors based on the Health Belief Model (HBM) that significantly related to BSE practice were perceived susceptibility to breast cancer, perceived barriers to practice BSE, and confidence in practicing BSE (Petro-Nustus & Mikhail, 2002). The other significant factors were knowledge of how to perform BSE (Bener et al., 2001; Haji-Mahmoodi et al., 2002; Hala & Ray, 2002; Jarvandi et al., 2002), belief that BSE is unnecessity (Jarvandi et al., 2002), fear of finding a lump or some abnormalities (Bener et al., 2001), personal history of breast problems (Haji-Mahmoodi et al., 2002; Milaat, 2000), family history of breast cancer (Hala & Ray, 2002; Milaat, 2000), having always heard or read about breast tumors and BSE (Petro-Nustus & Mikhail, 2002; Rashidi and Rajaram, 2000), and the number of clinic visits per year (Bener et al., 2001). Moreover, the findings of the qualitative studies have demonstrated that although health promotion and disease prevention are highlighted and encouraged by the *Qu'ran* and the *Prophet Mohammed* (*peace be upon him [pbuh]*), some Islamic teaching may be a hindrance to the performance of BSE among Muslim women, especially, Islamic mandates on gender and modesty, and patriarchal marital beliefs (Bottorff et al., 1998; Rajaram & Rashidi ,1999; Underwood, Shaikha, & Bakr, 1999).

In short, the previous studies among Thai women, Thai Muslim women, and Muslim women in other countries demonstrated that there was combination of several factors related to BSE practice. Thus, the BSE promoting program for Thai Muslim

women may require addressing all significant factors, particularly, Islamic teaching related to health (Athar, 1989; Rajaram & Rashidi, 1999); motivation that is consistent with the concept of Motivational Interviewing (Miller & Rollnick, 2002), perceptions about breast cancer and BSE that are consistent with the concepts of the Health Belief Model (HBM) (Champion, 1993), and self-efficacy that is consistent with the concepts of the Social Cognitive Theory (SCT) (Bandura, 1986 cited in Pajares, 2002; Bandura, 1994; Bandura, 1997 cited in Harnirattisai, 2003). All of these concepts were emphasized in this study as particular interventions that can enhance BSE practice among Thai Muslim women.

However, the population in this study was Thai Muslim women in rural area of southern Thailand, and this group of individuals exhibits differences when compared to Thai women in general. Due to the fact that they have a unique identity, especially regarding the issue of being modesty and strictly following Islamic teaching, which is entwined in every facet of Muslim life, from birth--marriage, family, politics, economics, and social relationships (McKennis, 1999). Consequently, promoting BSE practice requires an educational program concerning target group's background and living pattern, especially concerning religious beliefs and cultural differences.

For this reason the existing program developed for Thai women in general might not be appropriate in this context. This study required an insider getting involved in the program development process. Therefore, the process of action research using a technical collaborative was applied to be the process of the program development. The action research process including planning, action and observation, reflection, and evaluation is useful to identify possible solutions and the

implementation of change in a particular setting (Kemmis & McTaggart, 1988; Streubert & Carpenter, 1999). Technical collaboration is an action research approach that aims to test a particular intervention based on a pre-specified theoretical framework. The question is to see if the intervention can be applied in a practical setting. The nature of the collaboration between the researcher and the practitioners is technical and facilitating. The researcher enters the collaboration with an identified problem and a specific intervention. The interaction between the researcher and the practitioners is aimed at gaining the practitioner's interest in the research and agreement to facilitate and help with its implementation (Holter & Schwartz-Barcott, 1993).

The purpose of this study was to develop a culturally sensitive educational program, which is consistent with Islamic teaching, appropriate and acceptable in the context of Thai Muslim women living in rural areas of southern Thailand. The effectiveness of the developing program was evaluated in terms of: improving perceived susceptibility for breast cancer, perceived severity of breast cancer, and perceived benefits of the BSE; reducing perceived barriers to performing monthly BSE; and enhancing BSE self-efficacy and BSE practice. The ultimate goal of the program itself is to increase monthly BSE practice. Finally, it will reduce the number of cases of late diagnosis of breast cancer in Thai Muslim women, and, thereby, improve the odds of survival in this population.

Objectives of the study

The purposes of this study were:

1. To develop a culturally sensitive educational program to enhance the BSE perception, self-efficacy, and practice among Thai Muslim women.

2. To evaluate the effectiveness of a culturally sensitive educational program in terms of enhancing BSE perception, BSE self-efficacy, and BSE practice among Thai Muslim women.

Research Questions

The research questions to be answered from the study were:

1. How could a culturally sensitive educational program be developed to enhance the BSE perception, self-efficacy, and practice among Thai Muslim women?

2. How effective could a culturally sensitive educational program in terms of:

2.1 improving perceived susceptibility for breast cancer, perceived severity of breast cancer, and perceived benefits of the BSE;

2.2. reducing perceived barriers to performing monthly BSE; and

2.3. enhancing BSE self-efficacy and BSE practice among Thai Muslim women?

Significance of the Study

This action research study using a technical collaborative approach aimed to narrow the theory-practice gap. This study was an example of the application of the existing theory to a specific practice setting. Findings of this research provided guidance to develop a culturally sensitive educational program for delivering health promotion information to vulnerable members of the population. Therefore, it will contribute to nursing practice, particularly in the area of health promotion.

Scope of the Study

This study was conducted among Thai Muslim women living in rural areas in southern Thailand. The implement action program was developed for this specific setting. Thus, it was appropriate to be utilized only in a similar context.

Definition of terms

Thai Muslim women were Thai women who believe in Muslim and follow Islamic faith, living in a rural village in Southern Thailand.

Culturally sensitive educational program was an educational program developed to be consistent with Islamic teaching related to health and appropriate to context and living pattern of Thai Muslim women.

Breast self-examination perception was the individual perception regarding to breast cancer and BSE practice. It was measured by the BSE Perception Scale for

Thai Muslim Women, which comprises of four dimensions of perception regarding breast cancer and BSE practice. The researcher modified the instrument from the Champion's Health Belief Model Scale.

Breast self-examination self-efficacy was the individual confidence in performing BSE. It was measured by Lewis and Sainitzer's BSE Self-Efficacy Scale, which was translated to be Thai language by the researcher.

Breast self-examination practice was the act to detect lump or any sign of breast cancer that was evaluated by The BSE Practice Questionnaire. The researcher developed the instrument, which composed of: 1) BSE Frequency Index measured the number and frequency of performing BSE; and 2) BSE Proficiency Checklist measured the individual's skill in performing the BSE including looking in front of a mirror and breast palpation.

Educational materials were utilized as the manual for the program implementation. There were four educational materials, including: a motivational conversation script, a BSE Booklet, a BSE pamphlet, and a breast with lumps model developed during the process of the program development.

CHAPTER 2

Literature Review

The literature review of this study consists of seven parts. There are:

1. knowledge regarding breast cancer and breast cancer screening;

2. breast self-examination practice and factor related to BSE practice among Thai women and Thai Muslim women;

3. breast self-examination practice and factor related to BSE practice among Muslim women in other countries;

4. culture and life pattern of Southern Thai Muslim women;

5. concepts and theories related to BSE practice among Thai Muslim women;

6. enhancing BSE practice by action research process using technical collaborative approach; and

7. conceptual framework of this study.

Knowledge Regarding Breast Cancer and Breast Cancer Screening

This part reviewed current knowledge regarding breast cancer and risk factors, breast cancer screening, effectiveness and benefits of breast self-examination, and breast self-examination promotion in Thailand.

Breast cancer and risk factors. Breast cancer is a common form of cancer among women in both developing and developed countries. Although among Asian and Pacific Islander women, breast cancer incidence (78.1:100,000) and mortality rates (11.0:100,000) are lower than Caucasian and African American women (The

Susan G. Komen Breast Cancer Foundation, 2002), these rates continue to rise because of changing lifestyles. Breast cancer is a major public health problem with profound individual impact in terms of life expectancy and quality of life, as well as societal impact in terms of economic burden (Vahabi, 2003). In addition to the physical consequences of the disease, breast cancer can greatly affect women's quality of life. The disease invades breasts, which culturally have been symbolized as a source of nurturing, femininity, and sexuality (Vahabi). There are available cancer treatments such as radiation and chemotherapy; nevertheless, these have major impacts on women's sexual physiological functioning such as vaginal dryness, loss of sexual sensation, decrease in sexual desire, and alopecia, which is quite disturbing to women's image of their body (Knobf, 1998; Sammarco, 2001). Furthermore there are economic effects, not only direct costs but also indirect cost such as reduced productivity associated with loss of or reduced capability to work, or the loss of economic productivity because of premature death (Vahabi).

Several factors have been associated with the etiology of breast cancer. These include a wide spectrum of variables extending from sociodemographic/ reproductive/clinical characteristics of individuals, to cultural and environmental elements (Vahabi, 2003). According to American Cancer Society [ACS] (2002), there are two groups of risk factors for breast cancer as follows.

1. Unchangeable risk factors.

1.1 Gender. Simply being a woman is the main risk factor for developing breast cancer. Breast cancer can affect men, but this disease is about 100 times more common among women than among men.

1.2 Age. A woman's risk of developing breast cancer increases with age. About 18% of breast cancer diagnoses are among women in their 40s, while about 77% of women with breast cancer are older than 50 when they are diagnosed.

1.3 Genetic risk factors. Recent studies have shown that about 10% of breast cancer cases are hereditary and that most of these result from mutations of the BRCA1 and BRCA2 genes. Normally, these genes help to prevent cancer by making proteins that stop cells from growing abnormally. However, if a person has inherited a mutated gene from either parent, then that person’s probability of developing breast cancer increases.

1.4 Family history of breast cancer. The risk of breast cancer is higher among women whose close blood relatives have had this disease. The blood relatives can be from either the mother or father's side of the family. Having one first-degree relative (mother, sister, or daughter) with breast cancer approximately doubles a woman's risk, and having two first-degree relatives increases her risk 5-fold. Although the exact risk is not known, women with a family history of breast cancer in a father or brother also have an increased risk of breast cancer.

1.5 Personal history of breast cancer. A woman with cancer in one breast has a 3- to 4-fold increased risk of developing cancer in the other breast. This is different from a recurrence of the first cancer.

1.6 Race. Caucasian women are slightly more likely to develop breast cancer than African-American women. But African Americans are more likely to die as a result of breast cancer as they are often diagnosed at an advanced stage when breast cancer is harder to treat and cure. Asian and Hispanic women have a lower risk of developing breast cancer than Caucasian and African-American women.

1.7 Previous breast biopsy. Women whose earlier breast biopsies were diagnosed as proliferative breast disease without atypical or hyperplasia have a slightly higher risk of developing breast cancer (1.5 to 2 times greater than other women do). A previous biopsy result of atypical hyperplasia increases a woman's breast cancer risk by 4 to 5 times. Having a biopsy diagnosed as fibrocystic changes without proliferative breast disease does not affect breast cancer risk.

1.8 Previous irradiation. Women who have had chest area radiation therapy as a child or young woman, as treatment for another cancer (such as Hodgkin's disease or non-Hodgkin's lymphoma) are at significantly increased risk from breast cancer.

1.9 Menstrual periods. Women who started menstruating at an early age (before the age of 12) or who went through menopause at a late age (after 50) have a slightly higher risk of breast cancer.

2. Lifestyle-related factors.

2.1 Oral Contraceptives. It is still not clear what part oral contraceptives (birth control pills) play in breast cancer risk. A recent analysis using data from most of the large, well-designed, published studies found that women now using oral contraceptives have a slightly greater risk of breast cancer than women not using them. Women who used to take oral contraceptives but have not taken them for more than 10 years do not appear to have any increased breast cancer risk. When considering using oral contraceptives, women should consider the risk factors for developing breast cancer with their health care providers, as these, in combination with the use of oral contraceptives, may increase their risk of breast cancer.

2.2 Not having children. Women who have had no children or who had their first child after the age of 30 are at a slightly higher risk.

2.3 Induced abortion. A recent study from Denmark provided very strong data that supports the finding that induced abortions have no overall effect on the risk of breast cancer. There is also no evidence of a direct relationship between breast cancer and spontaneous abortion (miscarriage) in most of the studies that have been published.

2.4 Estrogen replacement therapy. Most studies suggest that long-term use (5 years or more) of estrogen replacement therapy (ERT), sometimes called hormone replacement therapy (HRT), after menopause, may slightly increase the risk of breast cancer. A recent study found that the risk from ERT applies only to current and recent users, and that a woman's breast cancer risk returns to that of the general population within 5 years of stopping ERT treatment. ERT clearly reduces the risk of heart attacks and bone fractures. The decision to use ERT after menopause should be made by a woman and her doctor after weighing up all the possible risks and benefits, as there are clear benefits from ERT in reducing the risk of heart attacks or strokes, osteoporosis, and Alzheimer's disease. Factors to consider include a woman’s risk level in terms of heart disease, breast cancer, osteoporosis, and the severity of menopausal symptoms.

2.5 Not breast-feeding. Some studies suggest that breast feeding may slightly lower breast cancer risk, especially if breast feeding is continued for 1.5 to 2 years. Other studies found no impact on breast cancer risk.

2.6 Alcohol consumption. Alcohol consumption is clearly linked to increased risk of developing breast cancer. Compared with nondrinkers, women who

consume one alcoholic drink a day have a very small increase in risk, and those who have 2 to 5 drinks daily, have about 1.5 times the risk of women who drink no alcohol. Alcohol is also known to increase the risk of developing cancer of the mouth, throat, and esophagus. The ACS recommends limiting consumption of alcohol for anyone who drinks.

2.7 Smoking. While no studies have yet linked cigarette smoking to breast cancer, smoking affects overall health and increases the risk for many other cancers, as well as heart disease.

2.8 Obesity and high-fat diets. Obesity (being overweight) has been suggested as a breast cancer risk in all studies, especially for women after menopause (which occurs at approximately age 50). However, the connection between weight and breast cancer risk is complex. For example, risk appears to be increased for women who gained weight as an adult but not among those who have been overweight since childhood. Also, the effect of obesity on risk is more prominent among women taking estrogen replacement therapy than among those who are not. Studies of the amount of fat in ones diet as it relates to breast cancer risk have often given conflicting results. Most studies found that breast cancer is less common in countries where the typical diet is low in total fat, low in polyunsaturated fat, and low in saturated fat. On the other hand, many studies of women in the United States have not found breast cancer risk to be related to dietary fat intake. Researchers are still not sure how to explain this apparent discrepancy. Therefore, the ACS recommends maintaining a healthy weight and limiting your intake of red meats, especially those high in fat.

2.9 Physical activity. Exercise and cancer is a relatively new area of research. Recent studies indicate that strenuous exercise in youth might provide life-long protection against breast cancer, and that even moderate physical activity as an adult can lower breast cancer risk. Additional research is underway to confirm these findings.

2.10 Environmental risk factors. A great deal of research has been reported and more is under way in the field of environmental influences on breast cancer risk. The goal is to determine their possible relationships to breast cancer. Currently, research does not clearly show a link between breast cancer risk and exposure to environmental pollutants, such as the pesticide DDE (chemically related to DDT), and PCBs (polychlorinated biphenyls).

2.11 Other factors. Recent internet e-mail rumors have suggested that underarm antiperspirants and underwire bras impede lymph circulation and contribute to development of breast cancer. There is no evidence that either factor is causally related to breast cancer risk.

Nevertheless, some women with one or more breast cancer risk factors never develop the disease, while most women with breast cancer have no apparent risk factors (ACS, 2002). Vahabi (2003) stated that efforts in the area of primary prevention of breast cancer are hindered for several reasons. First, the majority of the established breast cancer risk factors have shown only low to moderate association with the development of the disease. Thus, a reduction in the amount of these risk factors may have only a small effect on breast cancer incidence. Second, many of the established risk factors are related to physical or behavioral characteristics that are beyond the domain of medical intervention. Although genetic testing provides

information regarding genetic mutations, it is still unclear which of the women with mutations actually will develop breast cancer. Hence, treating all women found with the BRCA gene mutations may result in unnecessary mastectomies, oophorectomies, radiation exposure through mammography, and toxic effects of tamoxifen. Consequently, secondary prevention through screening and early detection is appropriate for breast cancer prevention.

Breast cancer screening. Since there is no practical method of primary prevention of breast cancer immediately available, screening, resulting in the diagnosis and treatment of breast cancer at an early stage, appears to be the optimal approach to reducing mortality from this common disease. The ACS (2002) stated that the goal of screening examinations for early breast cancer detection is to find cancers before they start to display harmful symptoms. Breast cancer that is detected because it has caused symptoms of the disease tends to be relatively larger and likely to spread beyond the breasts. In contrast, breast cancer detected during screening examinations is more likely to be small and confined to the breasts. The size and the extent to which breast cancer spreads is the most important factor in predicting the prognosis of a woman with this disease. Finding breast cancer as early as possible greatly improves the likelihood that treatment will be successful. The ACS (2002) has recommended the following screening guidelines for early breast cancer detection:

1) Women aged 40 and over should have a screening mammogram every year.

2) Between the ages of 20 and 39, women should have a clinical breast examination (CBE) by a health professional every 3 years. After age 40, women

should have a breast examination by a health professional every year. The CBE should be conducted close to and preferably before the scheduled mammogram.

3) Women aged 20 or over should perform BSE every month. By doing the BSE regularly, she will get to know how her breasts normally feel and will be more able to detect any signs or symptoms.

Mammogram. A screening mammogram is an x-ray of the breast used to look for breast disease in women who are asymptomatic, that is, who appear to have no breast problems. In order to produce a good mammogram, the breast is compressed to flatten and spread the tissue, the entire procedure for screening mammography takes about 20 minutes. Modern mammography equipment used specifically for breast x-rays, with very low levels of radiation is used, and usually delivers appropriately 0.1 to 0.2 rad dose per x-ray. Strict guidelines are in place to assure that mammography equipment is safe and uses the lowest dose of radiation possible (ACS, 2002).

Clinical breast examination. A CBE is an examination of a woman's breasts by a health professional, such as a physician, nurse practitioner, nurse, or physician assistant. For this examination, a woman undresses from the waist up. The health professional will first inspect the breasts for changes in size or shape. Then, the examiner will gently palpate the breasts using the pads of the fingers. Special attention will be given to the shape and texture of the breasts, location of any lumps, and whether such lumps are attached to the skin or to deeper tissues**.** The areas under both arms will also be examined.

Breast self-examination. The best time for BSE is about a week after the menstruation period ends, when the breasts are not tender or swollen. Women who are

not having regular periods should do BSE on the same day every month. Women who are pregnant, breast-feeding, or have breast implants also need to do regular BSE. By regularly examining her own breasts, a woman is likely to notice any changes that occur. The ACS (2002) has recommended the following BSE steps:

1) Lie down with a pillow under right shoulder and place right arm behind head.

2) Use the finger pads of the three middle fingers on left hand to feel for lumps in the right breast.

3) Press firmly enough to know how breast feels. A firm ridge in the lower curve of each breast is normal. If you are not sure how hard to press, talk with your doctor or nurse.

4) Move around the breast in a circular, up and down line, or wedge pattern. Be sure to do it the same way every time, check the entire breast area, and remember how breast feels from month to month.

5) Repeat the exam on left breast, using the finger pads of the right hand (Move the pillow to under left shoulder).

6) Repeat the examination of both breasts while standing, with one arm behind head.

7) The upright position makes it easier to check the upper and outer part of the breasts (toward your armpit). This is where about half of breast cancers are found. You may want to do the standing part of the BSE while you are in the shower. Some breast changes can be felt more easily when your skin is wet and soapy.

8) For added safety, you can check your breasts for any dimpling of the skin, changes in the nipple, redness, or swelling while standing in front of a mirror right after your BSE each month.

9) If you find any changes, see your doctor right away.

The use of mammography, CBE, and BSE, following the recommendations outlined above, offer the best opportunity for reducing breast cancer death rate as a result of early detection. This combined approach is clearly better than any one examination. Without question, BSE or CBE without mammography would miss the opportunity to detect many breast cancers that are too small for a woman or her doctor to feel but can be seen on mammograms. Although mammography is the most sensitive screening method, some breast cancers do not show up on mammograms but can be felt by a woman or her doctors (ACS, 2002).

Effectiveness and benefits of breast self-examination. Murphy (1995) and Schabas (1993) defined screening as the application of specific interventions to apparently healthy, asymptomatic people with the hope of identifying early, latent, or potential disease. An important consideration before recommending a presumably beneficial screening program is whether there are any possible health risks associated with the screening. Since the majority of targeted people for screening programmes are healthy and do not have the disease one is trying to detect, screening should present no threat to the well-being of healthy individuals. It is important that the benefit of detecting disease in a small number of individuals not be lost because of the creation of unnecessary risks to a larger number of healthy people. Because of this concern, there are established criteria that a screening program should meet before implementation (Murphy, 1995; Schabas, 1993).

First, the disease being targeted by the screening program should be associated with significant morbidity or mortality in the population being screened. Secondly, there must be an effective treatment for the disease. The treatment began in the asymptomatic or preclinical phase identified by the screening program should result in a better outcome than treatment begun in the symptomatic period. If this criterion is not met, then there is no need for screening, as treatment can be delayed until symptoms are evident without compromising its effectiveness. Thirdly, the screening test must be simple, acceptable, safe, and accurate for the population being screened. Simplicity and acceptability are necessary to reduce the burden of doing the test and to increase the compliance of healthy people. The safety requirement is to ensure that no harm will come from participating in the screening program. The tests should be harmless. Hidden costs which may have been associated with some screening and intervention programs, include additional diagnostic tests and some ill effects of being labeled as "diseased". Accuracy is evaluated by the sensitivity, specificity, and predictive value of the screening test (Murphy, 1995; Schabas, 1993).

BSE involves regular examination of breasts by the woman. It is a cost-free health practice under a woman's control, and can be practiced by women of any age (Glenn & Moor, 1990). It is a relatively easy, simple, painless, noninvasive, self-care action, which can be performed in approximately 5-10 minutes and can be performed in privacy (Atkins et al., 1991; Ku, 2001; Persson et al., 1997; Semiglazov et al., 1993). However, one of the main limitations of BSE is that its effectiveness depends highly on the proficiency of the examiner (Vahabi, 2003). The effect of a woman's proficiency on the accuracy of BSE in detecting breast abnormalities is reflected in the results of a recent review of studies on BSE that reported varying estimates of the

sensitivity and specificity for BSE (i.e., 26 % - 89 % and 66 % - 81 %, respectively) (Katschke & Schooff, 2001 cited in Vahabi).

To increase effectiveness, BSE must be performed both thoroughly and regularly on a monthly basis. BSE quality is determined by assessing thoroughness of coverage of the entire area in which lumps can occur and by measuring the number of correct detections against the number of false positives associated with the palpation technique used for lump detection. Certain finger palpation techniques may be associated with a greater number of correct lump detections and a lower number of false positive reports of lumps (O'Malley & Fletcher, 1987). Harvey et al. (1997 cited in Vahabi, 2003) reported that a lower incidence of advanced cancer or death from breast cancer among women who employed three specific techniques in their breast examination: visual observation, using finger pads for palpation, and examining breasts with three middle fingers.

Gross (2000) stated that adequate instruction was necessary to enable women to perform BSE correctly. The instruction required adequate time to review with the women how to properly examine the breasts and axillae, to review with them what normal and abnormal findings feel and look like, and to have them demonstrate their technique on themselves and on a breast model. Moreover, teaching can be reinforced with written materials, pamphlets, and/or videos. Programs to support and encourage monthly BSE were first established in Europe, Australasia, and North America in the 1950s and are still being implemented there and in other countries (Austoker, 2003). Findings of studies indicated that most masses were discovered by women themselves (Benedict et al., 1994; Benedict et al., 1996; Gross, 2000). An average-size lump found by a woman practicing regular BSE is approximately the size of a quarter (0.81

inches), while an average-size lump found by accident is as large as a half-dollar (1.40 inches) (The Susan G. Komen Breast Cancer Foundation, 2002).

However there have been recent controversies surrounding whether regular BSE really does impact early detection and mortality of breast cancer. Two studies failed to clearly show benefits from BSE instruction and regular performance of BSE. The first, a meta-analysis of the U.S. Prevention Services Task Force, by Humphrey et al. (2002), aimed to critically appraise and synthesize evidence regarding the overall effectiveness of breast cancer screening, as well as its effectiveness among women younger than 50 years of age. The findings reported that because neither CBE nor mammography is 100% sensitive, BSE has been advised as an important screening method among women older than 20 years of age. However, its effectiveness in decreasing death from breast cancer has been controversial because evidence from clinical trials is limited. Physician visits and biopsy for benign breast lesions increased among those educated in BSE.

The second study, by Baxter (2001), an analysis done with the Canadian Task Force on Preventive Health Care, evaluated evidence relating to the effectiveness of BSE to screen for breast cancer and to provide recommendations for routine teaching of BSE to women in various age groups as part of a periodic health examination. Because there is reasonable evidence of no benefit, and good evidence of harm, it was recommended that routine teaching of BSE be excluded from the periodic health examination of women aged 40 – 59. For women younger than 40, there was little evidence for effectiveness of BSE specific to this group because of the low numbers of breast cancer incidences in this age group, the risk of harm from BSE and BSE instruction was found to be even more likely. For women 70 years and older,

although the incidence of breast cancer is high, it was found that there was insufficient evidence to make a recommendation concerning BSE. The author stated that although the evidence indicated no benefit from routine instruction, some women will ask to be taught BSE. The author recommended that potential benefits and harms should be discussed with the woman, and if BSE is taught, care had to be taken to ensure that she performs BSE in a proficient manner.

In addition to the studies cited above, there are authors whose studies supported the findings that BSE appears to have little or no impact on breast cancer mortality (Austoker, 2003; Frank & Mai, 1985; Green & Taplin, 2003; Hackshaw & Paul, 2003; Philip, Harris, Flaherty, & Joslin, 1985; Schabas, 1993; Weiss, 2003; Wittink & Straton, 2003).

However, it does not mean that BSE is useless, the ACS and the National Cancer Institute recommend that women practice monthly BSE as a means of breast cancer prevention, in addition to regular mammogram and CBE. Often, breast masses are detected by women themselves through BSE (Benedict et al., 1996; Bhakta, Donnelly & Mayberr, 1995; Cope, 1992; Glenn & Moor, 1990). Although BSE does not have an impact on mortality, women who conducted monthly BSE and detected their own cancers found much smaller lesions than women who never examined themselves, or those who did so only on an intermittent basis (Foster et al., 1987). They also detect cancers much earlier and with fewer positives nodes and smaller tumors than women failing to examine themselves (Hill et al., 1988).

In addition, there are a number of authors who have addressed the benefits of BSE practice including: it is a safe, effective and practical alternative (Epstein, Bertell, & Seaman, 2001); it increases a woman's sense of control (Gross, 2000); it

increases a woman's familiarity with her own anatomy (Recer, 2002); and it develops good screening habit for breast cancer that leads to early detection (Solomon et al., 1998). The proponents of BSE claim that this procedure, if performed properly, could have an additive value to other screening modalities in the reduction of breast cancer mortality (Champion, 1992; Newcomb et al., 1991). Certainly, teaching women to recognize the signs and symptoms of cancer is of value. Because of the preponderance of evidence supporting the benefits of BSE, monthly BSE is still recommended as part of routine breast health care (Recer).

Breast self-examination promotion in Thailand. Thailand is a country with limited resources. The national health promotion policy emphasizes public health education and health awareness, which can be achieved in simple and cost-effective ways. Semiglazov et al. (1993) and Anderson et al. (2003) stated that in many developing countries, without a public education program on breast cancer, detection often occurs at a late stage. In this respect, BSE has been suggested as a possible means of improving breast cancer control. BSE may be particularly suitable for countries that cannot afford the development of sophisticated screening services to reach the whole female population at risk.

Although breast cancer screening in western countries emphasizes mammography, it is not available to most women in Thailand. At present, Thailand has a total of 139 mammogram machines, of which 55 are in governmental hospitals and 84 in private hospitals. There are twelve in Southern Thailand (Medical Technology Group, 2003). Consequently, mammogram is used for diagnosis more than for screening. University hospitals, regional hospitals, the National Cancer Institute, and private hospitals all provide mammogram services that are expensive

and, therefore, available to few people. Most of the Thai population are on a low-income level, thus they may have restricted access to mammogram services. In addition, Thai people are reluctant to visit doctors routinely. Hence, knowledge and practice of BSE plays a crucial role as a basis device for Thai women to use to detect breast cancer early, and reduce advancement of the cancer at diagnosis (Maipang, 2001).

According to the national policy from the Ministry of Public Health of Thailand advocating Thai women to perform a BSE regularly, health care institutes started health promotion service with regards to BSE. The National Cancer Institute has provided information about BSE through media such as television, newspapers, magazines, and websites. Furthermore, provincial hospitals have BSE educational campaigns; however, most of them focus on postmenopausal women. In fact, women aged 20 and over should be encouraged to practice BSE monthly so that they are familiar with their breast tissue, and develop good screening habits for breast cancer that can lead to early detection. For Thai women living in rural areas, health stations take responsibility to provide health information. Promoting monthly BSE is amongst a list of health promotion issues. According to the preliminary assessment of the researcher, the health station has just distributed BSE pamphlets to women visiting health stations. Consequently, most Thai women had never performed BSE, and some women had never heard about BSE.

Breast self-examination Practice and Factor Related to BSE Practice among Thai Women and Thai Muslim women

There were seven research studies using descriptive design examining BSE practice and factors related to BSE practice among Thai women. Three descriptive studies were based on the HBM and used instruments developed by researchers (Gangkatkit et al., 1999; Potaya, 1989; Sunjorn, 2002). Two studies examined knowledge, attitude and practice about BSE (Nakarit, 1998; Mahanupap et al., 1998). One study used the Theory of Planned Action as a framework to examine intention to practice BSE among women who received hormone replacement therapy (Chupradit, 2000), and one study used open-ended questions to explore reasons for not performing BSE (Chanakok et al., 2002a).

The findings from these previous descriptive studies indicated that the percentage of Thai women who performed monthly BSE was approximately 10-30 %. The factors which strongly affected BSE practices among Thai women were knowledge about breast cancer and the BSE (Nakarit, 1998; Potaya, 1989; Sunjorn, 2002), receiving information about BSE (Gangkatkit et al., 1999; Nakarit; Sunjorn), physician's recommendation to perform BSE, family and social encouragement (Sunjorn), perception about breast cancer and BSE practice including perceived susceptibility to breast cancer, perceived severity of breast cancer, the perceived benefits of the BSE, and the perceived barriers to performing BSE (Gangkatkit et al.; Potaya; Sunjorn), and women's self-confidence to perform BSE (Nakarit). These findings clearly indicated that knowledge, motivation, perception, and self-efficacy were significant factors related to BSE practice among Thai women.

Moreover, the findings identified demographic characteristics that influenced BSE practice of Thai women including educational level, occupation (Mahanupap et al., 1998; Potaya, 1989), age (Mahanupap et al.; Sunjorn, 2002), income (Sunjorn), the area in which they live (Mahanupap et al.), the experience of having breast disease (Gangkatkit et al., 1999), and religion (Sunjorn).

Findings from qualitative data showed that the reasons for not performing BSE included breast-feeding, not realize that BSE was important, fear of abnormal findings, forgetting, being tired from work, and thinking that it was not necessary (Chanakok et al., 2002a). In addition, attitudes and subjective norms together could predict intention to perform BSE (Chupradit, 2000).

Besides, there were four experimental research studies investigating the effects of instruction or education programs on knowledge and BSE practice of Thai women. A study using quasi-experimental research investigated the effects of instruction based on the HBM to BSE compliance (Chantharapat et al., 2000). The other three studies investigated the effects of education using informational pamphlets, an instructional video-tape, and an artificial breast model on BSE among female factory workers (Chanakok et al., 2002b), the effect of a supportive/educative nursing system on BSE among female factory workers (Mahawan, 2001), and the effect of a educative supportive program on BSE in relatives of breast cancer survivors (Sawasdisingha et al, 2004). The results of these experimental research studies indicate that instruction or educational programmes significantly encourages Thai women to perform BSE. These results were consistent with findings of descriptive studies in that knowledge was a crucial factor related to BSE practice among Thai women.

Moreover, there was a study, which followed BSE practice one year after participants were trained in BSE (Chaiphibalsarisdi & Salyer, 2000). The researchers explored the beliefs and knowledge about breast cancer and BSE, and BSE practice among 18 janitors, age 23 – 54 years, who had been trained in BSE during a previous research project at Chulalongkorn University, Thailand. Although this group of women had been trained in BSE, the rate of monthly BSE performed was only 33 %. For the women who performed BSE, the findings confirmed strong beliefs in six areas of the HBM: 75% perceived susceptibility to breast cancer, 100 % perceived severity of breast cancer, 94% perceived benefits of BSE practice, 9% perceived barriers to performing BSE, 66% have health motivation, and 91% perceived control.

Among Thai Muslim women, there was a descriptive research study using the HBM to illustrate the frequency and method of BSE behavior among 400 Thai Muslim women in Pattani Province, Southern Thailand (Pethsirason, 2002). The findings demonstrated that 39.5 % of samples had received information in breast cancer and BSE from a public health worker who was familiar with the language and culture of Thai Muslim women, the remainder had received information from media such as, television. There was 58 % of the samples performed BSE during the last year; however, only 39.6 % of them performed monthly BSE and only 11.6 % of them regularly performed complete BSE techniques. The reasons given by the 42 % of samples who had never performed BSE included 78.6 % of them were unable to carry out examinations and 31.5 % were in fear of discovering a breast cancer tumor. The findings explained the lack of knowledge and understanding in breast cancer and BSE due to low educational levels and rarely receiving information.

In addition, the results revealed that health beliefs among Thai Muslim women were between a low to moderate level. The majority had moderately perceived the seriousness and benefits. More than half of them had low perceived susceptibility, perceived barriers, and perceived self-efficacy while almost of them had low perceived cue to action. Stepwise logistic regression indicated that the combination of cue to action, perceived barriers, education, and perceived self-efficacy could significantly account for BSE behavior 29.5 % of the variance ($p < .01$ and $p < .05$). Furthermore, the researcher recommended providing effective health education programs on BSE among Muslim women, corresponding to their indigenous language and culture.

Breast self-examination Practice and Factor Related to BSE Practice among Muslim Women in Other Countries

There were seven descriptive research studies that examined BSE practice and factors related to BSE practice among Muslim women. Two studies based on the HBM that investigated beliefs related to practice of BSE among Muslim women in the U.S. (Rashidi & Rajaram, 2000) and Jordan (Petro-Nustus & Mikhail, 2002). Five studies examined knowledge of breast cancer, attitude towards BSE, barriers to practicing BSE, BSE practice, beliefs, and behavior regarding breast cancer and BSE (Milaat, 2000; Bener et al., 2001; Hala & Ray, 2002; Haji-Mahmoodi et al., 2002; Jarvandi et al., 2002).

The findings from these previous descriptive studies indicated that less than 10% of Muslim women practiced monthly BSE. The variables based on the HBM that

significantly related to BSE practice were: perceived susceptibility to breast cancer, perceived barriers to practice BSE, and confidence in practicing BSE. However, the perceived seriousness of breast cancer and cue to action were not significantly correlated with the frequency of BSE practice in the past 12 months (Petro-Nustus & Mikhail, 2002). The other significant variables were: knowledge of how to perform BSE (Haji-Mahmoodi et al., 2002; Hala & Ray, 2002), personal history of breast problems (Haji-Mahmoodi et al.; Milaat, 2000), family history of breast cancer (Hala & Ray; Milaat), having ever heard or read about breast tumors and BSE (Petro-Nustus & Mikhail), and the number of clinic visits per year (Bener et al., 2001). In addition, the demographic factors that significantly related to BSE practice were educational level (Haji-Mahmoodi et al.), marital status (Jarvandi et al., 2002; Milaat), area where living (Bener et al.), age (Bener et al.; Haji-Mahmoodi et al.; Hala & Ray; Jarvandi et al.; Milaat; Petro-Nustus & Mikhail), and occupation (Bener et al.).

The qualitative data reported the reasons for not performing BSE included: lack of knowledge (Jarvandi et al., 2002; Bener et al., 2001); belief that it was not necessary (Jarvandi et al.); fear of finding a lump or some abnormality (Bener et al.); not working outside the home, never having access to medical information pertaining to BSE; barriers created by patient-physician communication; differences in political and religious values, and the reverence the women have for medical professionals (Rashidi & Rajaram, 2000).

In addition, there were three research studies using qualitative design to explore BSE practice among Muslim women. The first, conducted by Bottorff et al. (1998) examined breast health practices from the perspective of 50 South Asian women who are Sikh, Hindu, Muslim, and Christian. The authors reported that there

were four central domains of beliefs related to breast health practices: beliefs about a woman's calling, beliefs about cancer, beliefs about taking care of their breasts, and beliefs about accessing services. Firstly, domain of beliefs about a woman's calling composed of three categories: (a) maintaining the family honor, it was important for the women to maintain the appearance that their family was healthy, that their lineage was strong, and that they were coping with everyday life. Women protected their families' honor in two ways. Some women did not want to even check themselves for breast cancer, while others purposefully kept any diagnosis or worry about cancer a secret so that rumors would not dishonor the family; (b) being modest, a women's modesty extends beyond not showing her body to others: it also relates to how she treats her own body. Many women indicated that they were uncomfortable in performing BSE, believing it was or might be construed to be inappropriate for them to touch themselves in that way. Other woman felt uncomfortable even using the word breast and refrained from discussing any topics related to the breast with others. (c) putting others first, many women did not have time for breast health practices and did not see them as a priority.

The second domain, beliefs about cancer influenced women's decisions to engage in breast health practices. Women viewed cancer as a hidden killer, which caused much suffering, pain, and fear. Some women concluded that there was no point in doing anything to prevent, detect, or treat breast cancer. Some were adamant that women should not even think about breast cancer. Furthermore, some women did not believe they were at risk from breast cancer.

In regard to the third domain, taking care of their breasts, women reported that the approach they used to take care of their health was holistic and focused on

such issues as exercise, eating well, reducing stress, and having a balance in one's life. Four major beliefs with respect to taking care of their breasts were: paying attention to symptoms, following family advice, doing what the doctor said, and being vigilant.

In the last domain, beliefs about accessing services, there were three main beliefs including (a) the importance of being accompanied by a family member to health related appointments; (b) the importance of having a health care provider/someone with them who speaks their language; and (c) knowing the location of the health care offices or clinics.

The second research study, conducted by Underwood et al. (1999) used a focus group composed of nine Muslim women to gather data regarding the breast cancer screening practices of Muslim women. The findings revealed that their religious beliefs and customs significantly influenced their participation in breast cancer screening. They reported that fostering health promotion and disease prevention were encouraged by their Holy Prophet (Mohammed). Each of the women expressed the belief that their lives were divinely controlled by God (Allah). In the Muslim culture and religion, prevention of illness is stressed; Muslims believe that it is better to prevent a condition than to get it and then endure the treatment. However, the findings revealed that going to the doctor was not routine for Muslim women.

In addition, the findings reported that the teachings of their Holy Prophet cautioned the followers to avoid all things that are characterized as impure or degrading. Strict modesty of dress, manner, and behavior is expected of Muslim women. When in public, many Muslim women wear a veil or scarf, which serves as a symbol of their modesty. Muslim women are encouraged to avoid free and casual

interaction with men. Also, in situations where a Muslim woman must be in the presence of a man who is not her husband or an immediate relative she is encouraged to 'veil herself' and wear a loose fitting type of dress to conceal her femininity and attractiveness. Although health promotion and disease prevention were considered sacred and highly valued by the study participants, their beliefs regarding the manner in which Muslim women should interact with men and non-Muslim women were found to negatively influence their breast cancer screening, which was not routinely sought by the women in the focus group.

Furthermore, the women reported that this was a result of their lack of confidence in the provider's understanding of and respect for their religious beliefs, values, and customs. Many felt as though their beliefs and customs were often disregarded by health care providers. Many breast cancer screening programs within their communities were not structured in a manner that was consistent with the beliefs and customs of Islam. Despite their knowledge of the benefits of regular breast cancer screening, none of the women chose to participate in available breast cancer screening programs. Adopting the traditions of western society was not desirable to the Muslim women.

The last study, Bener et al. (2002) using qualitative design explored perceptions, knowledge, attitudes, and beliefs about breast cancer and its screening among 41 United Arab Emirate women in Al-Ain, the United Arab Emirates, aged 25-45 years, who attended primary health care centers and a community based women's association, using focus group methods. The findings showed that social and cultural factors related to breast cancer and its screening. The women's perceptions, knowledge, attitudes, and beliefs regarding cancer and screening, together with

aspects of the healthcare system and social milieu, appeared to strongly influence the women's preventive practices. Some of these factors had an encouraging effect on the women's practices, while others had a deterring effect. The encouraging factors included feelings of susceptibility, high levels of knowledge in some women, attitudes and beliefs about personal responsibility for health, and a supportive social milieu. Deterring factors included anxiety and fear about breast disease, which led to denial; lack of knowledge about cancer and the screening program; fear of, embarrassment about, and mistrust of health care; and the belief in predestination.

Moreover, there was a comprehensive analysis study by Rajaram and Rashidi (1999), which explored religious and socio-cultural issues relevant to breast cancer screening practice among Asian-Islamic women. They clearly revealed that the Islamic tenet both facilitated and hindered Muslim women from performing breast cancer screening. The authors explained that there were four Islamic mandates that facilitate health promotion and breast cancer screening including:

1. Islamic mandates on prevention and individual responsibility in health promotion, the teachings of Islam stress disease prevention and individual responsibility in health matters. The *Prophet Mohammed* (*pbuh*) stated, “An Ounce of prevention is better than a ton of treatment” (Athar, 1989). Islamic faith states that a person’s body is a gift received in trust from the higher power, God. This gift should be taken care of instead of misused. The *Prophet Mohammed* (*pbuh*) stated that a cure exists for every disease and individuals should use preventive measures to maintain good health (Athar). It is obligatory for Muslims to seek knowledge pertaining to health promotion (Ahmad, Hussain, & Sakr, 1989). Furthermore, he stated that this

knowledge is not reserved for doctors. Lay people can acquire it and use it to prevent illness, recognize disease early, and seek immediate medical attention (Athar).

2. Islamic mandates on cleanliness, the *Qu'ran* greatly stresses cleanliness of the body and the mind (Athar, 1989). Women are required to go through a special cleaning process *Ghust-El-Haydh*, at the end of each menstrual period while preparing themselves to resume prayers. Because an appropriate time for practicing BSE is this cleansing process, BSE can be associated with the monthly cleansing ritual in health promotion messages pertaining to breast cancer screening.

3. Islamic mandates on diet and eating habits, the Islamic religion emphasizes eating in moderation as a way to stay healthy (Ahmad & Azzam, 1988 cited in Rajaram & Rashidi, 1999). Mandates for fasting (*Sawm*) for a month beginning on the first day of *Ramadan* reflects self-discipline. Islamic fasting is prescribed as a way of training the mind and body in self-restraint, distracting an individual from temporal needs, and reminding an individual of the human needs of others (Maudi, 1960 cited in Rajaram & Rashidi). Within the context of health maintenance, fasting enables Muslims to gain the self-discipline necessary to avoid excessive weight gain (Athar, 1993 cited in Rajaram & Rashidi), a risk factor for breast cancer. Islam also prohibits the consumption of liquor and illicit drugs, and smoking to protect the mind and body.

4. Islamic mandates on physical exercise, physical exercise is part of the daily routine for most Muslims. Islam requires that individuals pray five times a day at fixed times. The movements in each *Salat* are mild, uniform, and involve all muscles and joints of the body, and condition the musculo-skeletal and cardiovascular systems and help to control anxiety, depression, and other emotional problems. The

caloric output during each *Salat* helps keep the energy balance. Each *Ruku* (one of the acts performed during the *Salat*) uses twenty calories. A total of 17 *Ruku* comprise a 24 hour prayer routine, and expend a total of 340 calories (Athar, 1993 cited in Rajaram & Rashidi, 1999). In addition, the *Prophet Mohammed (pbuh*) encouraged regular physical exercise including swimming, horse-back riding, and walking (Athar, 1993 cited in Rajaram & Rashidi). Frequent exercise has been shown to help reduce the risk of breast cancer. Therefore, encouraging regular exercise is an effective recommendation for breast cancer prevention.

As for the hindering factors, the authors stated that there were two Islamic mandates that hinder health promotion and breast cancer screening:

1. Islamic mandates on gender and modesty, modesty (*Hejab*), as mandated by Islamic cultural and religious practices, is a key consideration when dealing with Asian-Islamic women. Modesty requirements pertaining to dress exist for both men and women. After a girl reaches puberty, no part of her body should be exposed except her face and hands. Islam does not permit women's extremities, much less their trunks, to be exposed for medical examinations such as mammograms and CBE, except when absolute privacy is maintained. Additionally, discomfort may arise when women receive care from healthcare providers of the opposite gender. The Islamic religion does not allow the use of a healthcare provider of the opposite gender, unless it is impossible to locate a healthcare provider of the same gender (Athar, 1993 cited in Rajaram & Rashidi, 1999). These religious restrictions might keep women from effectively participating in breast cancer screening. In addition, women have restricted access to health information which is available outside their community. Women, particularly older women, are less likely to work outside the home due to traditional

cultural norms and the high value placed on the role of women as mother and homemaker. Also, on account of misinterpretations of Islamic beliefs, some Muslim men wrongly view their spouse as mere liabilities to be used, and restrict their contact with non-family members, particularly other men.

2. Patriarchal marital beliefs, some men view women as nothing more than the sole property of their husbands on account of misinterpretations of Islam (Siddique, 1988 cited in Rajaram & Rashidi, 1999). Many husbands inappropriately use Islam to justify their authority and dominance over their spouses. This creates another barrier to breast cancer screening practices for women.

Besides, the obstacles noted above, there are the other socio-cultural issues related to breast cancer screening including patient-physician communication, beliefs concerning cancer and cancer prevention (Rajaram & Rashidi, 1999).

This article outstanding articulated that while many Islamic teaching encourages Muslim women to take care of their bodies, some parts discourage them. Consequently, some Muslim women did not participate in breast cancer screening program or have never performed BSE. Hence, a program to enhance Muslim women needs to be developed based on their beliefs and must attempt to help Muslim women overcome the obstacles they face by increasing their awareness about taking care of their bodies, and also, it must avoid introducing ways that are inconsistent with their cultural traditions and religious beliefs.

Culture and Life Pattern of Southern Thai Muslim Women

Islam is the second largest religion in Thailand, with Muslims constituting the largest religious minority. Yusuf (1999) mentioned that Islam arrived from various directions: the Malay-Indonesian archipelago, Yemen (Hadhramawt), Persia, India, Burma, China and Cambodia. Two main groups comprise the Thai Muslim community: the *'native Muslims'*, or the Malays residing in the southern provinces, and the *'settled/naturalized Muslims*' of different ethnic backgrounds residing across the country, hence the ethnic, linguistic, cultural and political variation within the Thai Muslim community. The southern Muslims make up the majority (approximately 80%) of the total current Thai Muslim population (approximately 5-7 million). Most of them live in the southernmost provinces of Narathiwat, Pattani, Yala, Satun, and some districts of Songkla (Mahidol University, 2003).

Apart from ethnic differences, there is also linguistic diversity within the Thai Muslim community. The majority of Muslims in the south speak Malay, while those residing in other parts of Thailand converse in Thai (Yusuf, 1999). Songwattana (1997) reported that Thai Muslim, particularly in the four southern provinces, identify themselves as *'Malayu'* and use *'Malay or Yawee'* as their everyday language. However, the Thai Muslim in Hatyai district, Songkla Province may also adapt to other local cultural activities and participate in Thai Buddhists festivals, which are held in the district. In short, they are more likely to join and share activities with others than in the past. Thai Muslims in Hatyai are *'modern Muslims'*. Although religion remains important, modern Muslims and Buddhists integrate well in terms of

general participation and public behavior. In addition, they generally use a southern Thai dialect in everyday language.

Yusuf (1999) addressed that Thai Muslims maintain, express and symbolize their identity through religious institutions such as the mosque, pondok or Madrasah and the office of the Chularatchamontri/Shaikh al-Islam, as well as through Islamic festivals celebrated at the national level, including *'Maulid al-Nabi'*. Consequently, most Thai Muslims have settled down together in *'Thai Muslim villages'*. Every Thai Muslim village has a *'Mosque'*, where community prayers are held every Friday; it is the focus of community religious affairs (Songwattana, 1997). Since maintaining Muslim identity is most important among the Thai Muslim population, Yusuf stated that contemporary Islamic education in Thailand is cultivated through both the pondok, which offers solely religious education, and the combined educational programs disseminated by the Islamic Private Schools. Graduates of religious seminaries and universities from the Malay-Indonesian Archipelago, al-Azhar in Egypt, Saudi Arabia, Tunisia, India, Pakistan and Turkey man both types of institution.

Muslims believe that Islam is the ultimate religion revealed by Allah to mankind through the *Qu'ran* (the Holy book revealed to Allah's last messenger) and the *Sunnah* (the sayings, deeds, and sanctions of the *Prophet Mohammed [pbuh])*. Islamic regulations are based on the belief that *'there is no God besides Allah and Muhammad is Allah's apostle'*. Hence, Islamic culture is typified as a strong culture, quite unyielding to acculturation and assimilation (Jidmaud, 1996). All pillars and the *Prophet's Sunnah* provide guidelines for how Muslims should conduct their daily lives. The practice of Islam is an all-encompassing way of life and therefore is more

than a religion to its followers. It entwines in every facet of their lives, from birth, marriage, and family to politics, economics, and social relationships (McKennis, 1999).

Consequently, Islamic teaching, ethnic background and culture mold Thai Muslim woman. There are some notable differences from Thai woman.

1. Prominently, Islamic faith states that a person's body is a gift received in trust from the higher power, Allah. This gift should be taken care of instead of misused. Al-Hashimi (2003) asserted that the true Islamic personality of the Muslim woman is defined in the *Qu'ran* and *Sunnah*. Particularly with regards to taking care of the body, the Muslim woman who truly follows the teachings of Islam maintains her physical fitness and energy, keeps her body and clothes very clean, and takes care of her mouth and teeth. Thus, the health care activities related to taking care of the body are consistent with Islamic teaching.

2. Religious practice, the five daily ritual prayers is one of five pillars in the Islamic faith (McKennis, 1999; Winter, 2000). All Muslims have to pray five times a day and cannot miss any prayer times; hence, the health promotion campaign should consider convenient times.

3. Modesty is very strict for Muslim women, they should not expose any part of their bodies except their face and hands (Athar, 1993 cited in Rajaram & Rashidi, 1999). Physical contact between members of the opposite sex, who are not husband or close relatives, is strongly discouraged, although this rule is relaxed if medical treatment is required (Dhami & Sheikh, 2000). Consequently, Thai Muslim women are more likely to perform a health care activity that is a self-care action in a private area.

4. Patriarchal marital beliefs, Muslim women always put others first, so they have not enough time for themselves (Bottorff et al., 1998). Moreover, Muslim women are often portrayed as inferior beings. The woman's place is in the kitchen or raising children, whereas the man is considered the head of the family. Some men view women as nothing more than the sole property of their husbands because of misinterpretations of Islam (Dhami & Sheikh, 2000, Siddique, 1988 cited in Rajaram & Rashidi, 1999). Therefore, before carrying out activities related to their bodies, some Thai Muslim women have to ask permission from their husband first.

Concepts and Theories Related to BSE Practice among Thai Muslim Women

The literature review demonstrated that there were a number of factors related to BSE practice among Thai Muslim women. The researcher has summarized all of these factors into four groups as follows.

1. Religious and cultural beliefs are strongly related to BSE practice; therefore, Islamic teaching related to health is a crucial factor pertaining to BSE practice among Thai Muslim women.

2. Motivation is a factor that can encourage Thai Muslim women to perform BSE; consequently, motivation might be an appropriate strategy.

3. There are four factors based on the HBM, these being perceived susceptibility to breast cancer, perceived severity of breast cancer, perceived benefits of BSE, and perceived barriers to performing BSE, that are relevant to the current study.

4. Self-efficacy is important factor and must be enhanced in Thai Muslim women to promote their BSE practice. This factor is congruent with the concept of self-efficacy of the SCT.

Consequently, creating a program to enhance Thai Muslim women to perform monthly BSE should address all of these factors. These four groups of factors were congruent with the concepts of the following four theoretical areas: Islamic teaching related to health, Motivational Interviewing, the Health Belief Model (HBM), and the Social Cognitive Theory (SCT). Each of the four theories was described individually as follows.

Islamic Teaching Related to Health. Islam is a monotheistic faith embracing *Allah* as the one God, who is the creator of the universe. People who practice this religion are referred to as Islamic or Muslim (McKennis, 1999). The Islamic teachings and laws are basically derived from two resources, namely, the *Qu'ran* (the Holy book revealed to Allah's last messenger) and the *Sunnah* (the sayings, deeds, and sanctions of the *Prophet Mohammed [pbuh])* (Al-Shahri, 2002). As described in the *Qu'ran*, there are five pillars in the Islamic faith (McKennis, 1999; Winter, 2000) namely, *Shahadah* (the testimony of faith), *Salah* (the five daily ritual prayers), *Zakat* (Annual obligatory alms tax for the poor), *Sawm* (fasting during the month of *Ramadan*), and *Hajj* (the annual pilgrimage to Mecca).

The *Prophet Mohammed (pbuh)* introduced Islam in the seventh century. According to the Islamic faith, Mohammed was chosen by Allah to be his messenger and possessed the power to explain, interpret, and teach the *Qu'ran* (McKennis, 1999). Winter (2000) asserted that love for the *Prophet Mohammed* is hence central in

the Muslim affective range. This love in turn informs and energizes a cardinal duty of the faith, which is the faithful emulation of the *Prophet's Sunnah*: his custom, or way of life.

Regarding the perception of health, all Muslims have faith in God (*Allah*) and their bodies are gifts received in trust from Allah. These gifts should be taken care of instead of misused (Athar, 1989). The *Prophet Mohammed (pbuh*) established an example to mankind so his traditions in matters of health and personal hygiene are also a guide for his followers. The *Prophet Mohammed* said, *"Everything good that happens to you (O man) is from God; everything bad that happens to you is from your own actions."*

The *Qu'ran* and the *Sunnah*, an account of the way of life of the *Prophet Mohammed* (*pbuh*), contain guidelines for a balanced lifestyle and include messages stating that health promotion is a primary focus, while treatment of disease is a secondary focus (Athar, 1993 cited in Rajaram & Rashidi, 1999). In addition, the teachings of the *Prophet Mohammed* (*pbuh*), also known as the *Hadith*, contain powerful statements that support the importance of health promotion practices.

The teachings of Islam stress disease prevention and individual responsibility in health matters. The *Prophet Mohammed (pbuh*) said, *"An ounce of prevention is better than a ton of treatment"* (Ahmad et al., 1989), and *"a cure exists for every disease and individuals should use preventive measures to maintain good health"* (Athar, 1993 cited in Rajaram & Rashidi, 1999). It is obligatory for Muslims to seek knowledge pertaining to health promotion (Ahmad & Azzam, 1988 cited in Rajaram & Rashidi, 1999). Furthermore, the *Prophet Mohammed* (*pbuh*) stated that this knowledge is not reserved for doctors only. Lay people can acquire it and use it to

prevent illness, recognize disease early, and seek immediate medical attention (Athar, 1993 cited in Rajaram & Rashidi, 1999). However, many Muslims will not seek early attention, contrary to the Prophet's practice and teaching (Athar, 1989).

Although health promotion and disease prevention are highlighted and encouraged by the *Qu'ran* and the *Prophet Mohammed (pbuh)*; some parts of Islamic teachings caution followers to avoid all things that are characterized as impure or degrading. It may be a hindrance to Muslim women to perform BSE in order to take care of their breasts (Rajaram & Rashidi, 1999; Underwood et al., 1999). Thus, Islamic teaching related to health can be either facilitative factors or obstructive factors to BSE practice among Muslim women. Therefore, the following tenets should be utilized as a guide in developing an appropriate program in the context of Thai Muslim women.

1. The intervention program should encourage Thai Muslim women to gain awareness of the importance of taking care of their bodies following the Islamic teaching.

2. Thai Muslim woman respected by the villagers should carry the message to Thai Muslim women that the practice of the BSE is consistent with Islamic teaching.

3. The intervention program should utilize the facilitative factors to encourage Thai Muslim women to perform BSE. For example, it should instruct Thai Muslim women to perform BSE after their menstrual period, which is the time they are taught they must cleanse their bodies in order to resume praying every month, and is, coincidentally a good time to perform the BSE.

4. The intervention program should overcome the obstructive factors of Thai Muslim women. For example, a small group implementation is more appropriate than class implementation because of the modesty of Thai Muslim women.

Motivational Interviewing. People are positive change; then, an intervention as a trigger of change is possible to speed up or facilitate change. Miller and Rollnick (2002) define motivational interviewing as a client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence. Change is facilitated by communicating in a way that elicits the person's own reason for and advantages of change. There are four categories of change talk including; disadvantage of the status qua, advantage of change, optimism for change, and intention to change.

Cretain (1989) explored motivational factors in breast self-examination among 129 women who were 50 years of age or older. The findings showed that motivational influence of others was highly significant to the practice of BSE. The determinants for BSE included influence of family and friends (R^2 = .20, F = .000) and influence of knowing someone with breast cancer (R^2 = .24, F = .000). The author concluded that although women are growing aware of the importance of BSE, it appears that they lack sufficient motivation to perform it on a consistent basis. Motivation was a factor related to BSE practice. Therefore, motivation interviewing would be utilized as a strategy to increase the perceived of Thai Muslim women to breast cancer and BSE.

The Health Belief Model. The Health Belief Model (HBM) is a model that focuses on understanding what motivates a person to engage or not engage in a wide spectrum of health-related actions (Damrosch, 1991). Therefore, the purpose of this

model is to provide a systematic method to explain and predict preventive health behavior. It focuses on the relationship of the health behavior, the practice of it and the utilization of health services. Since its initial development, the HBM has been revised to include general health motivation for the purpose of distinguishing the illness and sick-role behavior from the health behavior (Brown, 1999).

The basic components of the HBM are derived from a well-established body of psychological and behavioral theory whose various models hypothesis depended mainly upon two variables: (a) the value placed by an individual on a particular goal and (b) the individual's estimation of the likelihood that a given action will achieve that goal (Clark & Becker, 1998). The main components of the HBM have remained intact since its inception in the 1950s. These components include perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and cue to action. The component of perceived self-efficacy was added to the model some years later in recognition of the importance of this construct in the explanation of health behavior (Clark & Becker; Kohler et al., 1999; Redding, J. S. Rossi, S. R. Rossi, Velicer, & Prochaska, 2000; Strecher & Rosenstok, 1997).

The perceptions of susceptibility and severity provide the energy to act, while the difference between perceived benefits and barriers provides the direction for action. It is proposed that if people perceive their own susceptibility to a disease, believe that the disease is severe, recognize many benefits and few barriers to prevent action, receive facilitative cues, and are generally motivated in health matters, there is a high likelihood of these people engaging in preventive behavior for that disease. The set of concepts is intuitively appealing to both clinicians and researches and has guided voluminous research on health behavior. According to the HBM, women who

believe that they are personally susceptible to breast cancer and that breast cancer is a serious disease are more likely to perform BSE. In addition, women who perceive more benefits from the BSE and fewer barriers to it would be more likely to perform BSE. Finally, according to the revised HBM, the more confidence women have in their ability to perform the BSE and the more motivated they are to promote their health, the more likely they are to practice the BSE (Champion, 1993).

A number of descriptive studies examined the relationships between the HBM variables and BSE practice (Benedict et al., 1997; Champion, 1984; 1985; 1987; 1988; 1990; 1991; Champion & Menon, 1997; Fung, 1998; Gray, 1990; Jirojwong & MacLennan, 2003; Lu, 2001; Massey, 1986; Sortet & Banks, 1997; Williams, 1988; Wyper, 1990). The vast majority of the findings of the descriptive studies supported that the concepts of perceived susceptibility to breast cancer, perceived benefits of the BSE, and perceived barriers to performing BSE are significantly related to BSE practice. Champion explained that, theoretically, the relationship between perceived seriousness of the disease and frequency of practice of the health behavior should be positive. However, in the case of breast cancer, the perceived seriousness of the disease may be so disturbing to a woman that BSE practice is inhibited. If the perceived seriousness of the disease becomes too high, a woman's fear can result in avoidance of any activity that would cause her to think about or potentially detect breast cancer.

Moreover, previous investigators have conducted empirical experimental studies that tested the effectiveness of intervention program based on the HBM. The results of these studies indicated that groups of women who had received intervention

programs had increased BSE practice (Champion, 1995; Champion & Scott, 1993; Lu, 2001).

Therefore, four concepts of the HBM would be utilized to guide development of the program to encourage Thai Muslim women to perform BSE including perceived susceptibility, perceived severity, perceived benefits, and perceived barriers.

1. Perceived susceptibility, or one's subjective perception of the risk of contracting a disease, refers to the probability that an individual assigns to personal vulnerability in developing the condition. The likelihood individuals will engage in precautionary behavior to prevent cancer depends on how much they believe they are vulnerable to or at risk from cancer. In general, it has been found that people tend to underestimate their own susceptibility to disease.

2. Perceived severity, or feels concerning the seriousness of contracting an illness, refers to how serious the individual believes the consequences of developing the condition are. An individual is more likely to take action to prevent cancer if he or she believes that possible negative physical, psychological, and/or social effects resulting from developing the disease pose serious consequences.

3. Perceived benefits, or beliefs regarding the effectiveness of the various actions available in reducing the vulnerability to or risk of contracting the disease, refers to the benefits of engaging in the preventative behavior. Motivation to take action to change a behavior requires the belief that the precautionary behavior effectively prevents the condition.

4. Perceived barriers, or the potential negative aspects of a particular health action that may act as impediments to undertaking the recommended behavior, refer to the barriers or losses that interfere with health behavior change.

The Social Cognitive Theory. Human behavior is explained in the Social Cognitive Theory (SCT) in terms of a triadic, dynamic, and reciprocal model in which behavior, personal factors (including cognitions), and environmental influences all interact. An individual's behavior is uniquely determined by these interactions. Among the crucial personal factors are the individual's capabilities to symbolize behavior, to anticipate the outcomes of behavior, to learn by observing others, to have confidence in performing a behavior (including overcoming any barriers to performing a behavior), to self-determine or self-regulate behavior, and to reflect and analyze experience (Bandura, 1986 cited in Pajares, 2002; Baranowski et al., 1997).

Bandura (1994) stated that perceived self-efficacy is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave. Such beliefs produce these diverse effects through four major processes. They include cognitive, motivational, affective, and selection processes. People's beliefs about their efficacy can be developed by four main sources of influence: mastery experience, vicarious experience, social persuasion, and somatic and emotional states.

Enactive mastery experience provides the most influential source of efficacy attainment because it is based on authentic mastery experience (Bandura, 1997 cited in Harnirattisai, 2003). Successes build a robust belief in one's personal efficacy. Failures undermine it, especially if failures occur before a sense of efficacy is firmly

established. The second way of creating and strengthening self-beliefs of efficacy is through the vicarious experiences provides by social models. Seeing people similar to oneself succeed by sustained effort raise observers' beliefs that they too possess the capabilities master comparable activities to succeed. Modeling influences do more than provide a social standard against which to judge one's own capabilities. People seek proficient models who possess the competencies to which they aspire. Through their behavior and expressed ways of thinking, competent models transmit knowledge and teach observers effective skills and strategies for managing environmental demands. Acquisition of better means raises perceived self-efficacy (Bandura, 1994).

Social persuasion is a third way of strengthening people's beliefs that they have what it takes to succeed. People who are persuaded verbally that they possess the capabilities to master given activities are likely to mobilize greater effort and sustain it than if they harbor self-doubts and dwell on personal deficiencies when problem arise. To the extent that persuasive boosts in perceived self-efficacy lead people to try hard enough to succeed, they promote development of skills and a sense of personal efficacy. In addition, people also rely partly on their somatic and emotional states in judging their capabilities. They interpret their stress reaction and tension as signs of vulnerability to poor performance. In activities involving strength and stamina, people judge their fatigue, aches and pains as signs of physical debility. Mood also affects people's judgments of their personal efficacy. Positive mood enhances perceived self-efficacy, despondent mood diminishes it. The fourth way of modifying self-beliefs of efficacy is to reduce people's stress reactions and alter their negative emotional proclivities and is interpretations of their physical states (Bundura, 1994).

The SCT provides the predictors of health behavior and the basis for intervention strategies. Performance enactment is an effective strategy based on an appropriate environment and situation, observational learning, reinforcement, and management of emotional arousal, enables people to have self-efficacy. Lev (1997) reviewed literature using Bandura's theory of self-efficacy to investigate prevention of cancer and adaptation to cancer. The author summarized that evidence from empirical research supported relationships between self-efficacy and cancer prevention. Programs focusing on cancer education and screening have increased knowledge, self-efficacy, and compliance through involvement on the programs. Self-efficacy is related to health-promoting lifestyles. Strong percepts of self-efficacy have been found to predict intention to quit smoking, increased participation in screening programs, and adjustment to cancer.

There were four descriptive studies examining relationship of SCT variables to BSE practice (Alagna, Morokoff, Bevett & Reddy, 1987; Friedman, Nelson, Webb, Hoffman & Baer, 1994; Gonzalez, 1990; Kurtz, B. Given, C. W. Given & Kurtz, 1993). The findings of these previous studies demonstrated that SCT variables are significantly related to BSE practice. In addition, Coleman (1991) reviewed literature on BSE. The author revealed that confidence in BSE performance, prior BSE instruction, and finding some way to remember to do BSE were factors most positively associated with frequency of BSE practice. Moreover, there were empirical experimental studies testing effectiveness of intervention programmes based on SCT. Results showed that frequency of BSE practice of women who were receiving intervention increased (Adderley-Kelly & Green, 1997; Clark, Hill, Rassaby, White & Hirst, 1991; Miller et al., 1998).

Therefore, concept of self-efficacy was the guide to develop the program of this study. In addition, mastery experience, vicarious experience, and social persuasion are emphasized in this study as strategies to enable Thai Muslim women to have BSE self-efficacy.

Enhancing BSE Practice by Action Research Process using Technical Collaborative Approach

The previous projects articulated that action research processes succeeded to increase breast cancer screening rates among vulnerable members of the population. The first, Altpeter, Earp and Schopler (1998), stated that the project illustrates successful 'real-life' approaches and actual 'field' methods that can be applied to a variety of complex health issues of hard to reach groups. The second, Kiger (2003), described that the use of volunteers who work closely with professional staff to perform project tasks and activities enabled them to establish creative, culturally and linguistically sensitive approaches for low-income, uninsured, or underinsured women. Choudhry et al., (2002) mentioned that conventional health promotion programs, which were based on the assumption that individuals have total control over their behavior, fail to address issues related to the power inequities and cultural constraints that exist within many traditional societies.

Guba (1996) addressed that research might properly be called *human* inquiry would exhibit three characteristics: decentralization deregulation, and cooperativeness in execution. *Decentralization* means to indicate a movement away from efforts to uncover generalizable "truths" toward a new emphasis on local context. It ought to be

apparent by now that generalized, one-size-fits-all solutions do not work. Without intimate knowledge of local context, one cannot hope to devise solutions to local problems. All problems are de facto local; inquiry must be decentralized to the local context. *Deregulation* means indicate a movement away from the restrictive conventional rules of the research game, the overwhelming concern with validity, reliability, objectivity, and generalizability. *Cooperativeness in execution* is to indicate a style of inquiry in which there is no functional distinction between the researcher and the researched. They are all defined as participants and they all have equal footing in determining what questions will be asked, what information will be analyzed, and how conclusions and course of action will be determined.

Action research is a method that takes the intention of understanding human experience beyond the traditional researcher and participant dichotomy. Action researches support a paradigm of liberation. Their goal is to democratize the research process. It is the interaction between researchers and participants that creates the action that is the hallmark of the action research process. Action research seeks to empower those who are a part of the process to act on their own behalf to solve real world problems (Speziale & Carpenter, 2003). Streubert and Carpenter (1999) defined action research as a method of research that involves taking action to improve practice and systematically studying the effects of the action taken.

Action researchers study a particular practice setting to identify possible solutions to the problems and action taken to implement solutions in the problem setting. The researchers carefully evaluate the process and also the outcomes of the change to be certain the change has had its desired effect. The aim of action research is to derive relevant solutions applicable to specific practice settings. Thus, the

purpose of an action research study would be to generate solutions to practice problems that are relevant to a particular hospital or practice setting. Action research leads to the generation of practical knowledge, knowledge that relates directly to the problems and concerns specific to a setting. Practice knowledge is useful in a particular setting because it ultimately improves practice. Moreover, as an indirect result of action research, practitioners learn about their practice and about themselves within a setting and also learn to implement change to improve their own practice. Practitioners who collaborate in an action research study become committed to the desired change and thus are more likely to include the change as a permanent part of their practice when the study is finished (Streubert & Carpenter, 1999).

Holter and Schwartz-Barcott (1993) stated that the humanistic sciences are seen as a viable alternative to the current over-emphasis on the natural science. Action research is a highly compelling method given this context. It was designed specifically for bridging the gap between theory, research, and practice and incorporates both humanistic and naturalistic scientific methods. Major goals of action research were to create a change in practice and to develop or refine existing theory. These goals have continued to be central characteristics of action research including collaboration between researcher and practitioner, a search for solutions to practical practice problems, the implementation of changes in practice, and the development of theory. There are three main approaches to action research including (a) the technical collaborative approach that generates a predictive type of knowledge, (b) the mutual collaborative approach that generates a descriptive type of knowledge, and (c) the enhancement approach that generates both predictive and descriptive types of knowledge.

The technical collaborative approach was utilized as a research process in this study. Holter and Schwartz-Barcott (1993) addressed that

> "…Technical collaboration is an action research approach that aims to test a particular intervention based on a pre-specified theoretical framework. The question is to see if the intervention can be applied in a practical setting. The nature of the collaboration between the researcher and the practitioners is technical and facilitating. The researcher enters the collaboration with an identified problem and a specific intervention. The interaction between the researcher and the practitioners is aimed at gaining the practitioner's interest in the research and agreement to facilitate and help with its implementation. Generally, this approach results in an efficient and immediate change in practice. The kind of knowledge that results from this approach is predictive knowledge and the major thrust is on validation and refinement of an existing theory and hence is essentially deductive…"

Action research does not provide highly prescriptive methodological guidelines. The aim of learning through action for action research remains paramount, whereas the choice of method depends on the peculiarities of the situation. Action researchers describe their craft as a cyclical process involving planning, acting, reflecting, and evaluating (Waterman, et al., 1995 cited in Streubert & Carpenter, 1999). Researchers differ in their approach as to which come first - analysis or implementation (Streubert & Carpenter, 1999). This study was an action research using the technical collaborative approach. Each of the four stages of action research is described individually in the following section (Streubert & Carpenter, 1999).

Planning. If action research does not include an analysis of the current situation, the study begins with action planning. Co-researchers create and complete an action plan, which details the descriptions of the change, process of implementation, plan for facilitating reflection, and evaluation plan. The action plan details the intended role for each player in the plan change and describes the methods for executing the roles. The evaluation plan includes a description of data generation and data analysis techniques and both process and outcome measurements. Action planning requires meetings among the co-researchers to discuss and plan the details. Researchers keep detailed notes of meetings and write a report of the final plan. When an action plan reaches completion, the change is ready for implementation.

Action. The action stage of the action research process involves the actual implementation of the new idea or change. Implementation occurs following action planning over a specified period. External researchers on the team take no active role in the implementation itself. They remain present during the implementation to guide and facilitate reflection that occurs simultaneously with the implementation. Internal researchers, however, do have a role in the implementation because they are members of the group in the practice setting.

Reflection. Reflection is an important step in the action research cycle that occurs during implementation of the new idea. Reflection provides insight into the process of implementation and the effect the change has on the key players. To engage in reflection, the key players think about how the new practice is affecting them while they are acting. Field notes, team meetings, or interviews aid the process of reflection. Data recorded during reflection provide important contributions to the theory that emerges from the action research study.

Occasionally, reflection points to a problem in the planned implementation. The research team discusses the problem area and may or may not decide to adjust the implementation plan as a result. If they do make adjustments, then the co-researchers will keep careful records of the adjustments and the reasons for making them. These adjustments can be important to the success of a planned implementation.

Evaluation. Evaluation occurs at the conclusion of the implementation or at specified intervals throughout the implementation, as designated in the action plan. Co-researchers plan evaluation carefully. An evaluation of the implementation process includes the data generated during reflection as well as additional data. The evaluation process, which often follows a process similar to the initial assessment, should include triangulation of data generation techniques to validate meaningfulness accuracy. Methods of data generation will depend on the evaluation questions asked. Most studies require qualitative and quantitative techniques of data generation. Researchers may choose data from this stage of reflection to evaluate the implementation process. They might measure outcomes of the implementation using surveys, interviews, and objective measures.

Expert researchers on the team guide the evaluation process in consultation with the practitioners on the research team. The researchers prepare and distribute tools or they might ask key practitioners to distribute tools. Researchers interview key players and conduct evaluation meetings. The researchers analyze the quantitative data using statistical technique and the qualitative data using methods such as constant comparative analysis. Meeting with practitioners to present their interpretations for discussion and verification are necessary to establish practical authority and more meaningful evaluation.

Conceptual Framework of This Study

The purpose of this study was to develop a culturally sensitive educational program to enhance BSE practice among Thai Muslim women. Figure 1 presents the conceptual frame work of this study. The research process consisted of three phases. The first phase was rapid assessment, which aimed at investigating the current situation. As mention in part of literature review, Thai Muslim women were the specific population and have a unique identity. The appropriate program for this particular setting required concerning their background and living patterns, especially, religious beliefs and cultural differences.

The second phase was the program development, which aimed to develop the program following four stages of action research process: planning, action and observation, reflection, and evaluation described by Kemmis and McTaggart (1988). A technical collaboration approach was employed to test a particular intervention based on a pre-specified theoretical framework, which included Islamic teaching related to health (Athar, 1989; Rajaram & Rashidi, 1999); motivation that is consistent with the concept of Motivational Interviewing (Miller & Rollnick, 2002); perceptions about breast cancer and BSE that are consistent with the concepts of the Health Belief Model (HBM) (Champion, 1993); and self-efficacy that is consistent with the concepts of the Social Cognitive Theory (SCT) (Bandura, 1986 cited in Pajares, 2002; Bandura, 1994; Bandura, 1997 cited in Harnirattisai, 2003). The nature of the collabolation between the researcher and the participants was technical and facilitating.

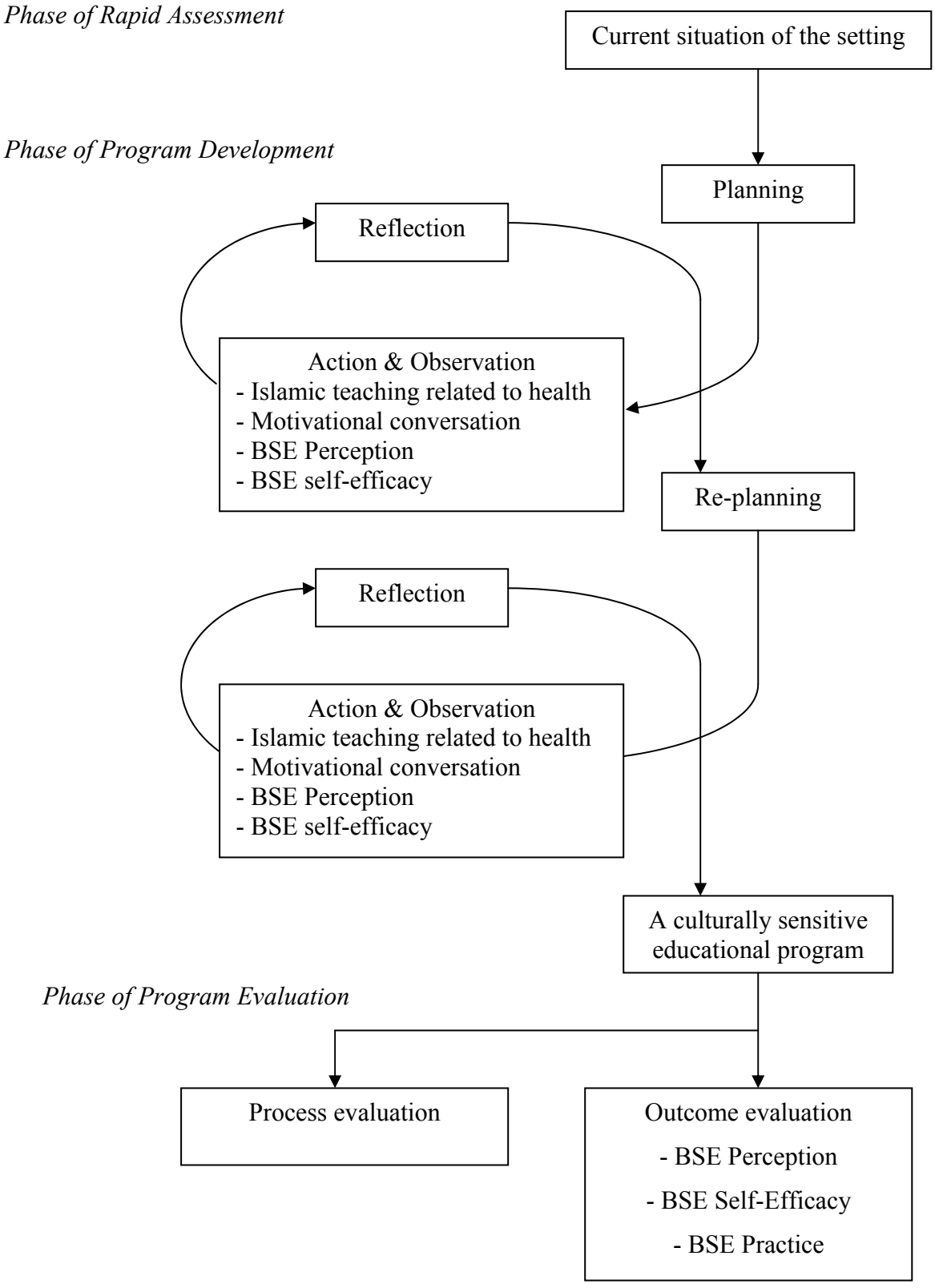

Figure 1 The conceptual framework of this study

Last, phase of program evaluation, which aimed at evaluating the effectiveness of the developed program in term of: improving perceived susceptibility for breast cancer, perceived severity of breast cancer, and perceived benefits of the BSE; reducing perceived barriers to performing monthly BSE; and enhancing BSE self-efficacy and BSE practice.

CHAPTER 3

Methodology

This chapter presents the research method that aimed to develop a culturally sensitive educational program for enhancing the BSE perception, BSE self-efficacy, and BSE practice among Thai Muslim women, and to evaluate the effectiveness of the program.

Research Design

Action research using a technical collaborative approach was applied in this study.

Setting

The setting of this study was *Ban Moung-kai Village*, *Chalung District*, which was a subdivision of *Amphoe Hatyai, Songkhla Province.* This Thai Muslim village consisted of 212 families and had a population of 1,292, with a majority (85.06 %) being Thai Muslims. There were two Mosques and six male religious leaders. For health care systems, three primary health care providers (PHCPs) of *Chalung District Health Station* have the responsibility for primary health care service. *Ban Moung-kai Village* has a primary health care unit, operated by the village health volunteers (VHVs) under facilitation of the PHCPs.

Population and Participants

Three groups of people participated in this study, including primary health care providers (PHCPs), village health volunteers (VHVs), and Thai Muslim women.

Primary health care providers (PHCPs)

Two PHCPs working at *Chalung District Health Station*, *Amphoe Hatyai*, one was Buddhist and the other was Thai Muslim, were selected to be the participants using the purposive inclusion criteria, including: 1) being a woman, 2) having responsibility to primary health care service of this village, and 3) being a willing to involve in this study. At first, in the phase of rapid assessment, they were key informants. However, throughout of this research study they took role of field researchers, including: leaders of group meetings to plan the program, observers of program implementation, leaders of group meetings to reflect the program, and data collecting as well.

Village health volunteers (VHVs)

All Thai Muslim VHVs of *Ban Moung-kai Village*, 6 males and 13 females, were willing to participate in this study. However, after four months on the study, 2 males and one female dropped out from the study because they were no longer VHVs. Hence, sixteen Thai Muslim VHVs (4 males and 12 females) participated in this study from the beginning of the research study until finishing. The age of these participants ranged from 27 to 54 years, with an average of 38.06. All were married and worked on their rubber plantation. A Thai Muslim VHV had finished diploma level, three had finished secondary school level 3, seven had finished primary school level 6, and five

had finished primary school level 4. Three males and four females were members of village committees. In addition, two males also had religious positions in the community.

In phase of rapid assessment, five Thai Muslim VHVs were the key informants. All VHVs however became involved in the phase of program development. In addition, six of those involved in implementing the program as health messengers, who carried out health message (BSE information) to Thai Muslim women. The word “messenger” and “message” were identified by the participants because it seemed as a religious leader acted as a messenger, who carries out the Islamic teaching (message) to Thai Muslim followers.

Thai Muslim women

There were 351 Thai Muslim women aged 20 and over living in *Ban Moung-kai Village*. The participants were selected by using the purposive inclusion criteria including: 1) being a Thai Muslim woman aged 20 and over; 2) having no history of breast cancer disease; 3) having the ability to communicate in either central or southern Thai dialect; and 4) having a willing to participate in this study.

In phase of rapid assessment, 165 Thai Muslim women (approximately 47 % of population) were selected to be key informants to provide information about current BSE knowledge and practice in the village. Sixty of those involved in the phase of program development by attending the program implementation and reflecting on the program. Moreover, 103 of them attended the final program and completed the outcome questionnaires in order to evaluate the program.

Protection of Human Right

Permission to conduct this study was obtained by the Ethics Committee, Faculty of Nursing, Chiang Mai University (see Appendix A). The researcher was then granted permission from the Public Health Office of Songkhla Province to conduct this study in *Ban Moung-kai Village* with the VHVs and the PHCPs at *Chalung District Health Station*. After obtaining permission, the researcher contacted the VHVs and the PHCPs to invite them to take part in the study. They were informed of the objectives and research processes of the study. In addition, they were informed that they could accept or refuse to participate in this study. If they agreed to participate in this study, they were asked to put their acceptance in writing (see Appendix B).

Then, the VHV participants invited the Thai Muslim women to take part in the study. The researcher informed them about the objectives of the study, research processes, the intervention program, and potential risks and benefits to the participants of the study. In addition, the researcher protected their privacy and confidentiality. They could accept or refuse to participate in this study. If the participants agreed to participate in this study, they were asked to give either written or verbal consent (see Appendix B).

Instrumentation

The instruments included: 1) the instruments for rapid assessment, 2) the instruments for program development, and 3) the instruments for program evaluation. The detail of each instrument was described as follow.

1. The instruments for rapid assessment (see Appendix C) were developed by the researcher to investigate the current situation concerning BSE information and practice among Thai Muslim women in this village.

2. The program development required the following instruments:

2.1 The educational materials (see Appendix D) were used as the manual for implementation, including: a motivational conversation script, a BSE booklet, a BSE pamphlet, and a breast with lumps model. The first three materials were designed and refined throughout the stage of planning and re-planning in the phase of program development. Three religious leaders of *Ban Moung-kai village* had approved them for consistency with Islamic teaching, culture and religious practice. Then, three experts on breast cancer and BSE practice, two from Songklanagarind Hospital and one from the Faculty of Nursing, Prince of Songkla University, reviewed them for content validity.

For the forth educational materials, a breast with lumps model was developed for educational purpose by HEALTH EDCO, a division of WRS Group, Ltd. The model is made of BIOLIKE^{TM} synthetic tissue. There are five lumps at different area of breast including (a) left upper area, (b) right upper area, (c) right lower area, (d) around nipple, and (e) left lower area. The lumps ‘B’ through ‘E’ can

be felt by practicing BSE. The lump in area ‘A’ is non-palpable, and represents a tumor that can typically only be detected through mammography.

2.2 The field note guideline was developed by the researcher. This guideline was utilized to note any behavior that may happen during the phase of program development. The field note comprised of day, time, place, behavior, and atmosphere.

2.3 The question guide for program implementation reflection (see Appendix E) was developed by the researcher for exploring the self-reflection of each implementation and the opinion of the participants concerning program implementation.

2.4 Audiotape recorder. The researcher utilized an audiotape recorder to collect data during group meetings.

2.5 Researcher and field researchers were instruments of this study as well. The interaction between the researcher and the participants was democratization. The researcher worked closely with the participants, encouraged the participants to express their opinion and feeling, accepted their opinion and feeling, and utilized the conclusion of the group meeting for developing the program.

3. The program evaluation instruments included the question guide for reflection, and five outcome evaluation questionnaires.

3.1 The question guide for participant reflection on process of program development, program component, and program implementation (see Appendix F) was developed by the researcher to explore the opinion of the participants concerning the process of program development, the program components, and the program implementation.

3.2 The demographic characteristics and each outcome variable were measured for testing effectiveness of the program using the following questionnaires:

3.2.1 Demographic Background Sheet was developed by the researcher for collecting information. This included age, marital status, number of children, educational level, income level, occupation, family history of breast cancer, personal history of breast problems, receiving information about BSE, and BSE practice. The questions on this instrument were three closed-ended questions, and six closed-ended multiple choice questions (see Appendix G).

3.2.2 The BSE Perception Scale for Thai Muslim Women was modified from the Champion's Health Belief Model Scale by the researcher following the step of instrument translation and adaptation proposed by Kristjamsson, Desrochers, and Zumbo (2003). The researcher received permission to revise the tool from the author (see Appendix H). The Champion's Health Belief Model Scale was developed based on the HBM by Champion (1984), and revised in 1993 (Champion, 1993). Four subscales of the instrument including perceived susceptibility to breast cancer, perceived severity of breast cancer, perceived benefits of BSE practice, and perceived barrier to perform BSE were modified to the BSE Perception Scale for Thai Muslim Women (see Appendix I). This instrument consisted of 6 items of perceived susceptibility to breast cancer, 10 items of perceived severity of breast cancer, 8 items of perceived benefits of BSE practice, and 17 items of perceived barrier to perform BSE. The items were formatted with a 5-Likert scale from 1 (strongly disagree) to 5 (strongly agree). Therefore, the scores of subscales of perceived susceptibility to breast cancer, perceived severity of breast cancer, perceived benefits of BSE practice,

and perceived barrier to perform BSE had ranges of 6-30, 10-50, 8-40, and 17-85 respectively.

3.2.3 The Lewis and Sainitzer BSE Self-Efficacy Scale was developed by Lewis and Sainitzer (Sainitzer, 1990) to measure the level of certainty or belief an individual has about their own capabilities to perform certain dimensions of BSE. This instrument was translated by the researcher for Thai Muslim women following the steps of instrument translation and adaptation proposed by Kristjamsson, Desrochers, and Zumbo (2003). There were three subscales: the motor subscale comprised questions 3, 4, 5, and 6; the judgment subscale comprised questions 1, 2, 7, and 8; and the communication subscale comprised questions 9, 10, 11, and 12 (see Appendix J). The scale of the instrument was formatted using a prorated score from 0 (cannot do at all) through 50 (moderately certain can do) to 100 (certain can do). The highest possible attained score was 400 for each subscale and the lowest possible score was zero on each of the subscales.

3.2.4 The BSE Practice Questionnaire composed of two parts. The first part was the BSE Frequency Index, which was developed by the researcher following BSE guideline of ACS (2002). There were four items regarding time and frequency of BSE practices (see Appendix K). The questions on this instrument were closed-ended multiple choice. The second, the BSE Proficiency Checklist was developed by the researcher by intensive literature reviewing in regard to BSE proficiency; however, this checklist was consistent with BSE guidelines of ACS (2002) (see Appendix L). This part consisted of 4 items of procedures of looking in front of a mirror, and 13 items of procedures of breast palpation; therefore, the highest possible attained score was 17.

Psychometric Properties of Instruments

The validity and reliability of the instruments were analyzed as follows.

Validity. Five experts on breast cancer and BSE practice, two from Songklanagarind Hospital and three from Faculty of Nursing, Prince of Songkla University (see Appendix M), reviewed the instruments for content validity and appropriateness for Thai Muslim women. The content validity index (CVI) of the BSE Perception Scale for Thai Muslim Women, the Lewis and Sainitzer BSE Self-Efficacy Scale, BSE Frequency Index, and BSE Proficiency Checklist were 0.88 – 1.00 (see Appendix N). In addition, all instruments were evaluated for face validity by five Thai Muslim women in the village in order to obtain understanding of each item.

Reliability. Two instruments were tested for internal consistency among twenty Thai Muslim women visited *Chalung District Health Station*. The Cronbach's alpha coefficient of four subscales of the BSE Perception Scale for Thai Muslim Women, including perceived susceptibility to breast cancer, perceived severity of breast cancer, perceived benefits of BSE practice, and perceived barrier to perform BSE were .69, .78, .74, and .78 respectively. The Cronbach's alpha coefficient of the Lewis and Sainitzer BSE Self-Efficacy Scale was .94. Interrater reliability of the BSE Proficiency Checklist was calculated using percentage agreement between three raters (the researcher, and two co-investigators) who simultaneously scored five VHVs. The percentage of agreement was 100.

Research Process and Data Collecting

The research process of this study was divided into three phases following the conceptual framework of this study (see Figure 2).

Phase of rapid assessment

During the first phase, in order to build relationship between the researcher and the participants, the researcher introduced herself to a PHCP at *Chalung District Health Station*, who introduced the researcher at a meeting of the VHVs in primary health care center of *Ban Moung-kai Village*. The researcher had a chance to build up a rapport by informal talking with each VHV. The objectives of the study and the collaborative process were explained for empowering and encouraging active involvement of participants

The researcher and two field researchers assessed the current situation about BSE information and practice among Thai Muslim women in this village. Information on existing BSE promotion campaign and operation was collected by observation and informal conversation with key informants, who were the PHCPs, using the question guide (see Appendix C). The living pattern and issues related to BSE practice among Thai Muslim women were explored by observation and informal conversation with key informants, who were the VHVs and the Thai Muslim women, using the question guide (see Appendix C). In addition, the Thai Muslim women were asked about socio-demographic characteristics, and BSE information and practice using the Demographic Background Sheet (see Appendix G).

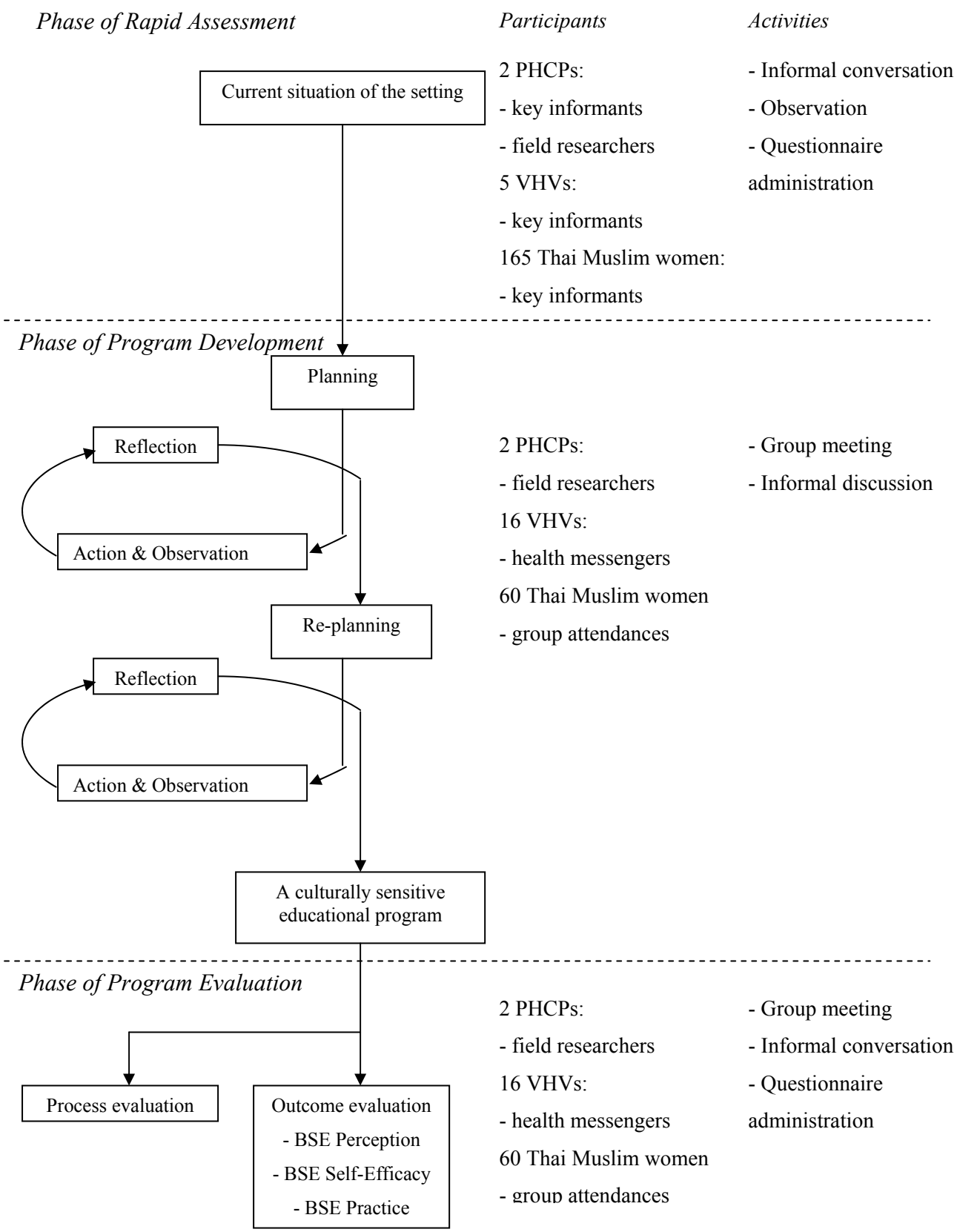

Figure 2 The research process and data collecting

Phase of program development

The program development composed of stages of planning, action and observation, and reflection.

In stage of planning, the participants, the field researchers, and the researcher created the program. Four group meetings discussed about the program components including: who were appropriate to carry out the BSE information to Thai Muslim women in this setting?; which part of existing BSE information should be refined for appropriate and acceptable for this setting?; and how to carry out the BSE information to Thai Muslim women? Moreover, the program implementation was planned by preparing the health messengers, identifying activities in group implementation. Many times of informal discussions were utilized in this stage.

The developing program was carried six times to six groups of Thai Muslim women by six health messengers in stage of action and observation. Each groups included five group attendances. The researcher and the field researchers observed every program implementations using field notes.

In order to reflect to program, the researcher and the field researchers informal discussed with group attendances after finishing each implementation. Each health messenger self-reflected about their roles and reflected the program components as well. After finishing six program implementations, all participants met to reflect the program. The information was collected by audiotape recorder using the question guide (see Appendix E).

According to the conclusion of the reflection, the developing program was refined, implemented, and reflected in the later cycle of re-planning, action and observation, and reflection until the participants were satisfied.

Phase of program evaluation.

There were two parts of program evaluation including the process of program development evaluation and the outcome evaluation.

The process of program development evaluation, the participants were asked to reflect on the process of the program development, the program components, and the program implementation using the question guide (see Appendix F). The researcher collected these data by audiotape recorder during informal discussion and a group meeting.

The outcome evaluation, the final program was implemented to small groups of Thai Muslim women. Each groups included five attendances. The outcome variables including BSE perception, BSE self-efficacy, and BSE practice were determined for testing the effectiveness of the program. The data was collected before implementing the program and three months later using the outcome evaluation instruments.

Data Analysis

The data of each phase of research process were analyzed as following.

The data of rapid assessment

The information from field note record and transcribed information from audiotape recorder were analyzed to conclude current situation. The content analysis was utilized to systematically categorize and grouping.

The socio-demographic data of Thai Muslim women in this village were analyzed using descriptive statistics: frequencies, percentage, mean, and standard deviation.

The data of program development

The information from field note record and transcribed information from audiotape recorder were analyzed to conclude the process of program development, the program components, and the program implementation. The content analysis was utilized to systematically categorize and grouping.

The data of program evaluation

1. The data of process evaluation. The information from field note record and transcribed information from audiotape recorder were analyzed to conclude current situation. The content analysis was utilized to systematically categorize and grouping.

2. The data of outcome evaluation. The socio-demographic data of Thai Muslim women in this village were analyzed using descriptive statistics: frequencies, percentage, mean, and standard deviation. After testing assumptions, the mean score of each variable of before attending the program implementation (pretest) and three months later (posttest) was compared using paired t-test.

CHAPTER 4

Results and Discussion

This action research was conducted using a technical collaborative approach. The program for enhancing BSE perception, self-efficacy and practice among Thai Muslim women was developed and evaluated. This chapter presents the results of the rapid assessment, the program development, and the program evaluation. Moreover, the researcher provides discussion in accordance with the objectives.

The Rapid Assessment

The findings from the key informants revealed the current situation as consisting of: 1) health resources and the existing BSE promotion campaign and operations; 2) BSE information and practice among Thai Muslim women; and 3) issues related to BSE practices among Thai Muslim women.

1. Health resources and the existing BSE promotion campaign and operation

Ban Moung-Kai Village is a village in *Chalung District*, which has the *Chalung District Health Station* as a primary care unit of the *Hatyai Hospital*. Three PHCPs provided health information and services. Even though the village was located far from the health station, approximately 2 kilometers, a part of the village (about 40 families) was located about 10 kilometers away. There was no public transportation in the village; thus, most villagers traveled to the health station by walking or by

motorcycle. Thai Muslim women who could not ride a motorcycle, especially the elderly, could not go by themselves. Consequently, they were less likely to join in any health activities at the health station. A Thai Muslim woman aged 38 years said that

> …I hardly go to the health station because my home is far from there approximately seven kilometers and I cannot ride a motorcycle by myself. I have to wait for my husband. If it is necessary, I will ask a neighbor…

The other health resource of the village was the *Ban Moung-kai Primary Health Care Unit.* It has been operated by the VHVs. In general, their duties are related to occasional requests from the PHCPs, such as population surveys, child weight surveys, and so on.

For BSE promotion, the PHCP reported that in 2003 *Hatyai Hospital* had arranged a BSE skill-training program for VHVs; however, this program included only one VHV per village; therefore, only one VHV from *Ban Moung-Kai Village* had attended the program. After attending the program, there had been no follow-up activities to promote BSE practice among the Thai Muslim women in the village. The PHCP of the *Chalung District Health Station* had distributed BSE pamphlets, which had been originally developed for Thai women in general to the female villagers visiting the health station. The PHCP mentioned that the national policy planed to promote 80 % of Thai women over the aged of 35 years to practice BSE on a monthly basis. However, they had no specific intervention to encourage the women in the village to do it.

2. BSE information and practice among Thai Muslim women

Table 1 depicts information about the background of 165 Thai Muslim women regarding breast cancer and BSE information and practice. There were 4.2 % that had a history of breast diseases or breast disease symptoms, such as breast lumps, pain, itching, thickening around the nipple, and pain during the menstruation period. In addition, 1.8 % had close female relatives who had breast cancer; namely, older sisters, aunts, and daughters. They said that even though they were afraid of breast cancer because it was a serious illness, they did not know how to prevent it.

Table 1

Distribution of Thai Muslim Women by Background Regarding Breast Cancer and BSE Practice (n = 165)

Background	N	%
History of breast disease		
no	158	95.8
yes	7	4.2
Family history of breast cancer		
no	162	98.2
yes	3	1.8
BSE information		
no	141	85.5
yes	24	14.5
BSE practice		
no	152	92.1
yes	13	7.9

Approximately 14.5 % had received information about BSE practice from various sources, such as television, magazines, physician at a private hospital or clinic, physicians or nurses at a government hospital, and through BSE training. However, some of those who received BSE information were not interested in this information because they were uncertain if the BSE procedures might offend their modesty. Some said that they were reluctant to expose their breasts to conduct the BSE.

Consequently, the findings showed that 7.9 % had performed BSE, and only 1.2 % had ever performed BSE on a monthly basis. The motivational reasons for doing BSE included having breast symptoms, a post breast lumpectomy, advice of physician or nurse, female relative had breast cancer, and information from media sources such as television. The Thai Muslim women who had never performed BSE reported that they had never had any breast cancer symptoms, and had never heard about the information regarding BSE.

3. Issues related to BSE practice among Thai Muslim women

The results revealed two significant issues related to BSE practice among Thai Muslim women. The first issue was concerns about Islamic teachings related to health practice, and the other concern background and living patterns of Thai Muslim women.

3.1 Concerning Islamic teaching related to health practice, the findings revealed that the health care activities that would be promoted to Thai Muslim women should be consistent with Islamic teaching, and appropriate and acceptable in the context of Thai Muslim women. Muslims have faith in God as the

creator of life, so it was though that a health care activities related to taking care of life would be acceptable. A Thai Muslim woman aged 55 years old said that,

> …Taking care of our body is a good thing. A Muslim's body is a gift from Allah. He gives life to us. We have to take care of our life, our body. It is a way of life for Muslims. We have to take care of our bodies; no one can do this for us or instead of us. Performing BSE is comparable to taking care of our breasts, which are a part of our body. I think it is possible to encourage female Muslims to take care of their breasts because it is the same as taking care of their bodies, which are gifts from Allah…

However, the approval of the religious leader of the village was required in order to confirm that the activity did not offend Islamic teaching, culture, and religious practice. A VHV said that,

> … They are reluctant to do any activities that they have never done because they are unsure if it offends Islamic teaching or religious practice, or not. For example, I cannot encourage them to participate in aerobic exercise because of the music. If a religious leader approves a health program and tells the villagers that it is a good thing and consistent with Islamic teaching and the *Holy Qu'ran*, it is easier to encourage them to do it…

In addition, the data clearly showed that the Thai Muslim women would like to maintain their religious practice, culture and tradition, particularly their

modesty and appropriate behavior. The health care activity should not offend Thai Muslim women's modesty of a forty-six year Thai Muslim woman, who said that,

> …I do not know if I can do BSE or not. In fact, Allah has never prohibited anyone from doing anything that is good. However, Muslim women should keep their modesty. We should act appropriately and in a manner so that we do not expose our bodies to other people. Moreover, some wives have to ask for permission from their husbands first, because they believe that the wife is the sole property of the husband…

3.2 The findings demonstrated the background and living patterns of Thai Muslim women, including: literacy and language; role, responsibilities, and time allocation; Thai Muslim women network and activities; and resources for health information and services. All of these affected their access to, and the accessibility of BSE information and BSE practice.

3.2.1 Concerning women's literacy and language use, the findings showed that more than half of them (56.4 %) had finished only primary school, and 18.8 % had no formal education. Consequently, most of them were illiteracy. Moreover, all villagers used the southern dialect in their daily living; they were not familiar with the central Thai language.

3.2.2 Concerning the role of women, responsibility and time allocation, the majority (76.9 %) worked in rubber plantations and the working hours were between 3 a.m. to 10 a.m. After taking a rest for 2-3 hours, they set about their household chores, such as preparing food, washing, cleaning, and so on. In addition, a

religious practice that is an essential obligation for Muslims is to pray five times a day at 5 a.m., 7 a.m., noon, 3 p.m., and 6 p.m. Moreover, most (84.2 %) were married and had an average of three children. Bringing up children and taking care of other family members was the responsibility of the females. Therefore, their daily activities were related to earning a living, taking care of their children and other family members, housework, and religious practices. A Thai Muslim woman aged 42 years explained that,

> …I am very busy all day. After working in the rubber plantation, I take a rest, and wake up at noon to have lunch, pray and wash. Then, I go to the market, pick up my children from school, take care of them, prepare food, and so on.

Almost all Thai Muslim women earned their daily income by working in rubber plantations. Stopping work meant that they would lose their income. Thus, they were reluctant to leave their work for other activities. In addition, taking care of other family members was the responsibility of women. Some Thai Muslim women have to take care of their elderly relatives or patients. Besides, while their husbands go to *Da-Wa*, the religious practice of male Muslims of going to other villages or other mosques to talk about Islamic teaching, which can take 3 days, 7 days, 2-3 months or 6 months, Thai Muslim women have to take responsibility for the family as a Thai Muslim woman aged 21 years reflected,

> …I cannot leave my kids. The older brother is two years old, and the younger sister just six months. My husband has gone to *Da-Wa*, so I have to bring

> them up by myself. Besides, I have to work to earn a living, and do the housework as well. I cannot leave for anything until he comes back…

Nevertheless, some opinions indicated that even when they were very busy, they could still do BSE or other health activities if they had the inclination to take care of themselves. A Thai Muslim woman aged 38 years said that,

> …I think intention is a significant thing. For me, if I intend to do something, I can do it. I can manage time for taking care of myself. I think I could do it in the daytime while taking a shower…

3.2.3 Concerning Thai Muslim women's network and activities, the findings showed that almost all are living in extended families; hence, the majority of villagers were relatives or close relatives. Informal conversation with each other was the common communication in the village. Older relatives and friends significantly persuaded them to engage in all health behaviors. A Thai Muslim woman aged 28 years said that,

> …People in this village are acquainted because most are relatives. What should we do or not do? Even though Islamic teaching guides us; there are not guidelines for every activity, such as performing BSE. I do not know, however; we can talk to each other. If it is good, I should do it. I always take others, especially my older relatives or friend, as an example. If most of them do it, then I can do it…

Every Sunday they should join in Matura, the religious practice of female Muslims of discussing the responsibilities of female Muslims, which takes place at an Islamic teacher's house. She explained that,

> …every Sunday evening we will join in Matura. A female Muslim, who has in-depth knowledge of the *Holy Qu'ran*, will lead the conversation. Most issues relate to the roles and responsibilities of female Muslims in their families. Female Muslims have to maintain their family life by taking care of other family members, bringing up their children…

In summary, the findings of the rapid assessment section of this study illustrated that even though the PHCPs at *Chalung District Health Station* had distributed BSE pamphlets to the Thai Muslim women in the village following the BSE promotion practice policy, a majority (85.50 %) of women had never received the BSE information. Very few women had performed BSE practice and then only occasionally. Islamic teaching related to health practice was important issue with which Thai Muslim women were concerned. In order to encourage accessibility to BSE information and practice, the activities of program implementation should relate to the women's background and living pattern.

Moreover, the rapid assessment phase enabled the researcher to become familiar with field researchers, Thai Muslim VHVs, and Thai Muslim women in the village. The assessment helped them to become aware that BSE practice is an essential practice for Thai Muslim women. Consequently, all Thai Muslim VHVs and

most Thai Muslim women were willing to participate in the phase of program development.

The Program Development

This section of the study presents the findings of the process of the program development and the program components.

1. The process of the program development

The process of the program development included the stage of planning, action and observation, and reflection. This program was developed throughout two cycles of action research (see Figure 3).

Cycle 1.

The stage of planning. Five group meetings were conducted at this stage. At first, the researcher and the field researchers presented the findings of the rapid assessment to all Thai Muslim VHVs. They were willing to commit themselves to becoming involved in the program development phase. The conclusion of the group meetings indicated that the program was comprised of three components, as follows.

1. The person, who carried out the program for Thai Muslim women in the village, was identified as the 'health messenger'. She should be a local person, and a Thai Muslim woman. However, she should be prepared to be knowledgeable and skillful in BSE. The filed researcher suggested that the village should have several the health messengers. The participants concluded that female Thai Muslim VHVs were appropriate to be health messengers since they had experience in health work in

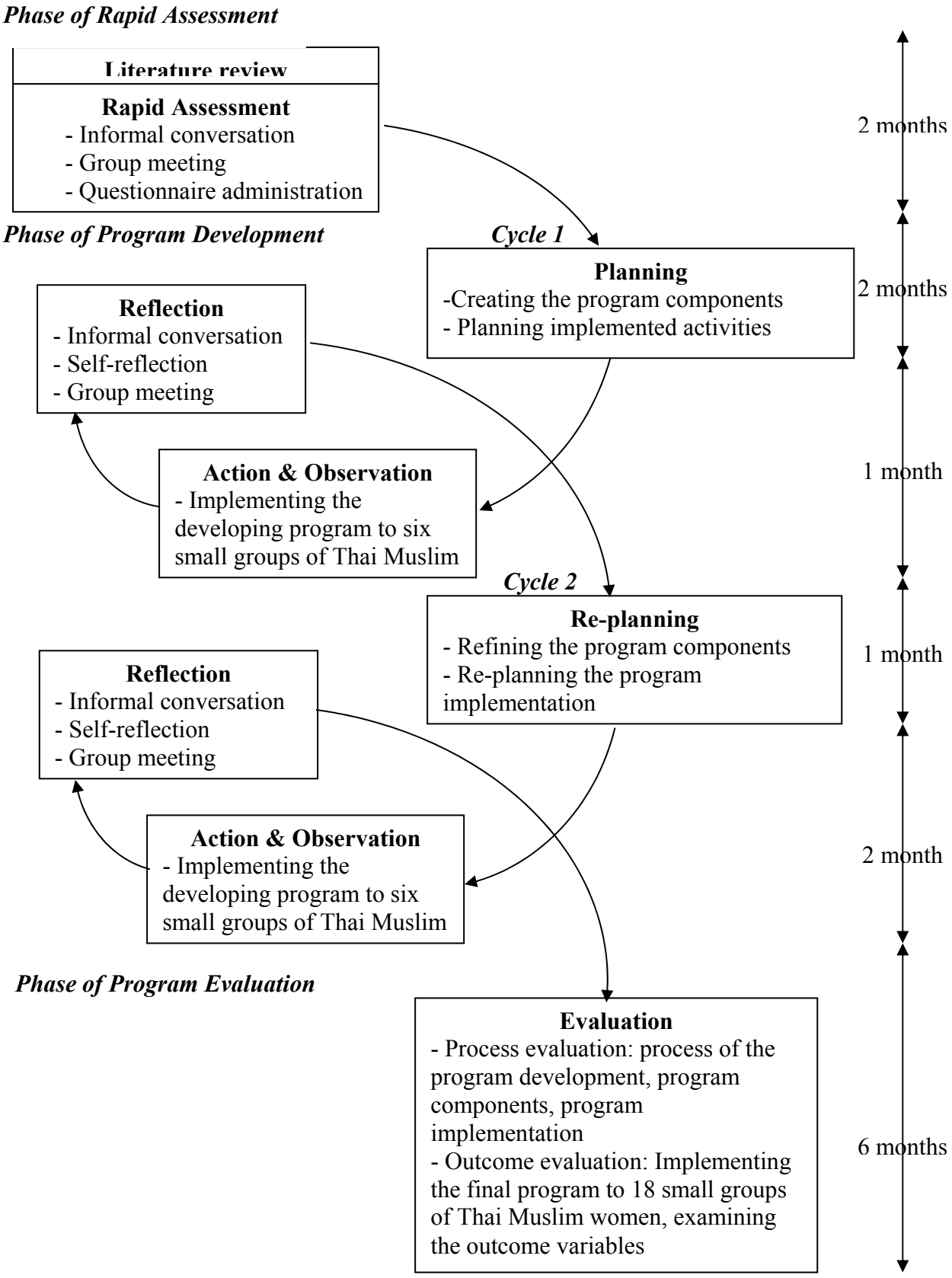

Figure 3 The process of the program development and evaluation

relation to the PHCPs. As a conclusion to the group meeting, 12 female Thai Muslim VHVs were willing to prepare as following.

1.1 Learning about breast cancer and the BSE procedure. In order to be knowledgeable about the severity of breast cancer and one's susceptibility to breast cancer, the researcher and the field researchers explained about breast cancer in terms of cause, risk factors, signs and symptoms, and treatments. The 12 female Thai Muslim VHVs discussed with each other about some people who had suffered from breast cancer such as relatives, friends, and neighbors. The benefits of and barriers to BSE practice were discussed. BSE procedures were described and demonstrated. Moreover, they attended a lecture about breast cancer and the BSE procedure given by an expert from Songklanagarind Hospital in order to increase their knowledgeable and perception.

1.2 Practicing the BSE skill. When the researcher and the field researchers had demonstrated the BSE procedure, The 12 female Thai Muslim VHVs practiced with the breast model and with their own breasts. In order to gain skillful in BSE, each practiced BSE in the privacy of her own house, and returned to demonstrate the procedure to the researcher and/or the field researchers one month later.

1.3 Visiting breast cancer patients. The 12 female Thai Muslim VHVs had experience in talking with breast cancer patients at the female surgical ward of Songklanagarind Hospital so that their perception of the severity of breast cancer was increased.

After finishing the health messenger preparation, six of the female Thai Muslim VHVs volunteered to be the health messengers for the first cycle of the program implementation. The other six were going to be assistants.

2. The BSE information would be communicated to the Thai Muslim women in the village. The participants identified this information as a 'health message'. The culturally appropriate BSE information was refined from the existing BSE information. While the health messengers were prepared, the other participants gained BSE knowledge as well. They agreed that BSE information, as it is related to the practice of health was not offensive to Islamic teaching. However, they commented that there were issues they were concerned about, such as 1) the information should focus on taking care of the Muslim body as a gift of *Allah*, 2) it should integrate BSE practice with taking care of the Thai Muslim woman after the menstruation period, 3) it should provide BSE procedures that Thai Muslim woman can do in private and in a modest manner (palpate while taking a bath in stead of palpate while lying on a bed). As a result of the participants' discussion, the BSE information was adjusted to be more culturally appropriate.

In summary, culturally appropriate BSE information consisted of: 1) Taking care of the body related to Islamic teaching, Thai Muslim women should take care of their breasts as a part of their body; 2) Thai Muslim women should integrate BSE practice as a part of taking care after menstruation period; 3) breast cancer knowledge includes incidence rate, risk factors, and the effect of the illness on individual and family; 4) the benefits of monthly BSE practice; 5) BSE procedures with a focus on palpation while taking a bath and looking in front of a mirror (if the woman has a mirror in a private room).

The participants, particularly the health messengers, were concerned about conveying culturally appropriate BSE information to the Thai Muslim women. Thus, they required educational materials, as the implementation manual, including a motivational conversation script and a BSE booklet. In addition, a BSE pamphlet was requested to remind the Thai Muslim women to do BSE. Thus, the researcher, the field researchers, and the participants created three educational materials. There were: 1) a motivational conversation script that included all culturally appropriate BSE information using the southern dialect; 2) a BSE booklet, including the main issues of surrounding BSE information, pictures of breast cancer patients, and illustrations of the BSE procedures; 3) two pamphlets, a pamphlet about breast cancer knowledge, and a pamphlet about BSE practice. The participants suggested that the words in these materials should be terms understandable by the layperson, and the letters should be enlarged enough to be visible. In addition, the illustrations of the BSE procedures had to be contained inside the pamphlet.

3. The activities of the program implementation were planned according to the background and living patterns of Thai Muslim women, as follows.

3.1 A convenient place should not far from the house of the Thai Muslim women should be chosen since it would be convenient for traveling, and it should be a privacy place for women.

3.2 An appropriate time in the afternoon should be chosen since they would finish working at the rubber plantation, and it should take a short time so that the Thai Muslim women could leave from their work duties.

3.3 Small group of should be chosen so that everyone could participate and practice BSE procedures.

3.4 Informal conversation and the use of understandable language for local persons, especially using southern dialect, should be chosen.

In short, the implemented activities integrated motivational conversation and BSE skill training. All health messengers were satisfied with the suggestion use of southern dialect since they could speak it fluently. The participants chose the health messengers' houses as the place for implementing the program. The appropriate time was found to be between 2 p.m. to 4 p.m., and the duration of the meetings approximately 30 minutes. The appropriate number involved in each implementation was thought to be five women.

All components were approved by the three religious leaders of *Ban Moung-Kai village* in relation to their consistency with Islamic teaching related to health practice.

The stage of action and observation. Following the implementation plan, each health messenger, accompanied by an assistant, carried out the program with a group of at least 4-5 Thai Muslim women. Therefore, the program implementation of the first cycle, with six health messengers, involved 28 attendees altogether. The researcher and the field researchers observed each implementation. The attendees were asked to reflect on the program, and each health messenger was asked to self-reflect. Then, all participants met in a group meeting to reflect on the program.

The observed finding showed the following.

1. All six-health messengers were able to carry out the program as planned with the occasional assistance of the researcher and the field researchers. However, they were worried about the contents of the BSE information, particularly regarding breast cancer disease. This caused lack of confidence and greater anxiety.

2. The culturally appropriate BSE information, which was written in the form of a script, was believed to be appropriate. Some pages of the BSE booklet, however, presented details about breast cancer disease that were difficult to understand. In addition, the pattern of the BSE pamphlet was more complicated (3-panel pamphlet), and was not well-sequenced. Thus, these educational materials needed refinement in the opinion of the participants.

3. The implementation time was from 2 p.m. to 4 p.m., and each implementation lasted approximately 25 -30 minutes. All the venues chosen were suitable and provided sufficient privacy. Each small group was composed of 4-7 Thai Muslim women. Thus, 28 Thai Muslim women were involved in this first cycle. The implemented activities were conducted in an informal atmosphere, even if they did not flow fluently. The Thai Muslim women were less likely to discuss issues; however, they were interested in self-practice with their own breasts. In addition, they expressed the desire to know how to feel breast lumps.

The stage of reflection. The researcher and the field researchers informally spoke with most of the attendees. Six health messengers self-reflected, then a group meeting was conducted among the researcher, the field researchers and the participants. The findings revealed the following.

1. Four health messengers said that even though they were anxious, this tension was relieved after finishing the first implementation, and they were willing to be health messengers in the next cycle. They said, “The next time would be better.” However, they would like to increase their BSE skills in order to be able to give a fluent demonstration. In contrast, two health messengers were too nervous. They said

that they could not remember the script, and they would like to change their role to be assistants in the next cycle.

However, the other participants were accepted the health messengers. The field researchers agreed that the female Thai Muslim VHVs were able to be the health messengers regarding BSE information. The Thai Muslim women that attended the program implementation said, “I know that she had learned and practiced already before talking to us. I think that they can teach us like the PHCP.” However, all participants agreed that they should improved their self-confidence in order to lead the small group. In addition, they should implement the script with a relaxed atmosphere: for example, talking about their own experience and, inviting the attendees to become involved in the informal conversation.

2. All participants agreed that the culturally appropriate BSE information in form of the script was understandable for the layperson, was well-sequenced, and covered essential knowledge about breast cancer and BSE practice for Thai Muslim women. Particularly, the linking of the BSE information to Islamic teaching, and religious practice was appropriate and acceptable. However, they proposed a refinement of the educational materials. These included: 1) deleting some pages of the BSE booklet; 2) combining two pamphlets into only one pamphlet, to change from a 3-panel pamphlet to a 2-panel pamphlet, and to sequence the contents in the pamphlet for easy understanding; and 3) adding a breast with lumps model to be an educational material.

3. The majority of Thai Muslim women were satisfied with the small group informal conversation because the location was private and convenient to access, and the time was suitable as well. One Thai Muslim woman aged 34 years said, “It took

just 30 minutes. I could leave my work to attend." All participants agreed that the integration of the motivational conversation and the BSE skill training was appropriate. However, they suggested such refinements as following: 1) inviting the attendees to discuss their own barriers in doing BSE, for example, managing time for doing BSE, moving a mirror to the bathroom to observe their breasts; 2) adding a breast model with lumps as part of the activities of BSE skill training.

Cycle 2.

According to the reflection findings of the first cycle, the program was refined and implemented throughout the process of re-planning, action and observation, and reflection.

The stage of re-planning. Each program components was refined following the conclusion of the group meeting.

1. In order to increase the ability and confidence of the health messenger, two health messengers changed their role to become assistants, and two assistants who had prepared to be health messengers volunteered to replace them. The four health messengers of the first cycle and the two new volunteers were then re-trained in order to increase their ability and confidence. They were assigned to re-read the script many times until they were able to present the ideas to the researcher or the field researchers using their own words perfectly. In order to improve their ability to lead the small group, they role-played the implementation activities with the participants.

2. The culturally appropriate educational materials were refined following the reflection data, including: 1) deleting some pages of the BSE booklet; 2) re-designing the pamphlet to a 2-panel pamphlet and sequencing the contents of the pamphlet for

easy understanding; and 3) adding a breast model with lumps as an educational material.

3. In re-planning the implementation activities, one more step, which was palpation with a breast model with lumps was added to the activities of the BSE skill training so that the attending Thai Muslim women got the feel of breast lumps.

The stage of action and observation. During the program implementation of the second cycle, each health messenger, accompanied by an assistant, conducted the program with a small group of five Thai Muslim women. The findings from the observation as follow.

1. Each health messenger, along with her assistant, was able to carry out the program using her own words, related to Islamic teaching, including examples of their experience in their conversation appropriately. They were able to motivated the Thai Muslim women who were interested in BSE information with no obstacle. Thus, the implementation atmosphere was more relaxed.

2. The contents of the refined BSE booklet and the refined pamphlet were visible, understandable and appropriate.

3. Each implementation was carried out with 4-6 Thai Muslim women during the afternoon, from 2 p.m. to 4 p.m., and took approximately 25-30 minutes. There were 32 Thai Muslim women attending the program. The implementation activities were carried out fluently and completely in an informal atmosphere since Thai Muslim women were invited to be involved in the conversation. They were more likely to self-practice on their own breast, and also practiced with the breast model with lumps to get the feel of breast lumps.

The stage of reflection. After the six health messengers had improved their abilities, they said that they were more confident and ready to carry out the program. All expressed the idea that they felt better and were more likely to be health messengers. The participants were satisfied with all the health messengers. The culturally appropriate BSE information and educational materials were accepted as being consistent with Islamic teaching and appropriate for Thai Muslim women. The implementation activities were accepted. Moreover, the attendees said that they gained knowledge about breast cancer and BSE practice. They perceived the necessity of BSE practice and they said that they would do BSE monthly.

2. The program components

According to the process of the program development, three program components were developed, including the health messenger, the culturally appropriate BSE information and educational materials, and the activities of the program implementation.

The first, the health messengers were the essential component of this program. They were responsible for carrying out the program with the Thai Muslim women in the village. They should be local persons who had the following characteristics: 1) be a Thai Muslim woman, 2) be accepted by the villagers as being knowledgeable and skilful in BSE, and 3) have the ability to conduct small group activities.

The second component of this program was the culturally appropriate BSE information. The essential property of this information was linking the BSE information with Islamic teaching related to health practice and living patterns of Thai Muslim women. This information was prepared in the form of a script. The culturally

appropriate educational materials included: 1) a conversation script containing the culturally appropriate BSE information, which was precise, concise, understandable for the layperson, and in the southern dialect; 2) a BSE booklet containing of the main information, pictures of breast cancer patients, and illustrations of BSE procedures; 3) a BSE pamphlet containing of knowledge about breast cancer and BSE practice, which was precise, concise, in visible letters, uncomplicated, and, importantly, had illustrations of BSE procedures inside; and 4) a breast model with lumps that was life-like, small size and portable.

Last, the activities of the program implementation should involved: 1) a convenient and privacy place, not far from the house of Thai Muslim women since it should be convenient to travel and private for women; 2) an appropriate time, which was in the afternoon when they finished work at the rubber plantation, and it should take a short time so that the women could leave their job duties conveniently; 3) an appropriate number in each group so that everyone could participate and practice BSE procedures; and 4) an informal conversation and use of understandable language for local persons, especially use of southern dialect. Moreover, the implementation activities should integrate motivational conversation and BSE skill training. The motivational conversation as the first activity should be conducted so that the Thai Muslim women would accept the BSE information related to Islamic teaching and religious practice. Then, knowledge about breast cancer and BSE procedures should be provided in order to improve the perceived severity of breast cancer, the perceived susceptibility to breast cancer, and the perceived benefits of BSE practice. A demonstration of each procedure of BSE should be conducted and the women should be encouraged to practice on their own breasts, and get the feel of breast lumps by

palpating on the breast model with lumps in order to enhance their BSE self-efficacy. Last, discussion of the barriers to the practice of BSE was required in order to reduce individual limitations.

The Program Evaluation

The findings of the program evaluation included the process evaluation and the outcome evaluation.

1. The process evaluation

The findings of the content analysis of the qualitative data from the participants revealed the reflection on the program development, the program components, and the program implementation, as follows:

1.1 Concerning the program development, the findings indicated that the participants should be involved in the development of the program. The participants agreed that this research study required the collaboration of all the participants. As a field researcher said that,

> …I know this research method needs the collaboration of everybody. I myself tried to participate in every meeting. I always told the VHVs not to miss the group meeting. Although not everyone could participate in every meeting, they knew 'what we were doing'. The VHVs always talked to each other, so they could follow our activities…

A female Thai Muslim VHV said that,

> …It is up to the intention of the individual. Some people would like to devote themselves, whereas some people think of themselves first. However, I think that if the activities of the program, such as the meeting, do not disturb their work so much, all VHVs are willing to do it because they are volunteers...

The participants agreed that this program was developed based on the opinion of the participants. The conclusion of each group meeting refined and adjusted the program components and the activities of the program implementation. A field researcher stated, "The VHVs had a chance to propose their opinions and feelings about the BSE information. They were involved in all stages: planning, action, and evaluation."

A female Thai Muslim VHV stated the following:

> …This research is deferent from previous researches, where we had been assigned to collect data or to take the researcher to the villagers. For this study, we were involved in planning, preparing the materials, and preparing the messengers; particularly, I am a messenger. I had never done this….

However, the Thai Muslim VHVs reflected that the planning stage was troublesome because they were less likely to work on the documents. A female Thai Muslim VHV said, "I was troubled by considering and refining the content, creating

materials--it is difficult and boring.” As one female Thai Muslim VHVs who was prepared to be health messengers reflected, “I think learning, practicing, visiting are alright. But I do not like role-play. I think it is not real, not relax. It is like a show.”

1.2 In term of the program components, the finding showed that the participants were satisfied with this program because it was specifically developed for Muslim Thai women in a rural area. A Thai Muslim VHV said the following:

> …There has never been a program like this before, specifically for Muslims, for us. I always say to the villagers that this is the first program developed particularly for Thai Muslim women. The VHVs of the other villages asked me about this program. I feel proud to be a part of this program…

A field researcher agreed that the strength of this program was that it was specifically developed for Thai Muslim women. It was therefore easier to persuade them to join the program. She said that,

> …Since the target group of the study was clearly Thai Muslim women, they felt that this program had been developed particularly for them, for Muslims. This is a very good thin. In general, health information does not offend Islamic teaching or religious practice, and the content of the BSE practice is consistent with taking care of a Muslim’s life. However, integrating Islamic teaching and religious practice into the content of the health information was a very good strategy to motivate the Muslim women to be interested.

> Moreover, the program was refined and adjusted based on the data of this area, this village, so the program was developed for this context…

1.3 Concerning the program implementation, the findings indicated that the program implementation was appropriately organized for the living patterns of the Thai Muslim women in this village. They could access the implementation. A field researcher said that,

> …The small group conversation was a natural group of Muslims, so the implementation session using small groups was accepted, as it is not different from their way of life. This program, by using an active strategy, promotes Thai Muslim women to do BSE. The implementation session was conducted nearby their houses and in their free time; thus, the majority can access to the program…

A Thai Muslim VHV said that,

> …The messengers' houses were close to the villager's houses. It was convenient for them to join. The 2-4 p.m. time was suitable. Most are free at that time. They could access this program…

Although the implementation was available for all Thai Muslim women in this village, there were some obstacles, particularly concerning household work. Some Thai Muslim women were worried about their kid, their house, their work, and

so on. They were anxious when they went out, even though it took only 30 minutes. Therefore, some Thai Muslim VHVs said that the atmosphere of the implementation depended on the behavior of the attendees as well. She said that,

> …Sometimes, I feel unhappy because I have to force some people to join the program. They do not want to join, to listen, and then they do not practice BSE any more. They are bored. They would like to go and do their jobs. They do not like being disturbed from their work. I cannot motivate them to participate...

Another Thai Muslim VHV said that, "It depends on the behavior of the attendees. If they are eager and enjoy learning, I am happy. If they are bored and in a hurry to go, I have problems talking to them."

In addition, a field researcher mentioned that the interest of the villagers was important. She said that,

> …It is up to the current situation. The villagers are always interested in the hot issue. They will be interested in the information that relates to their life, their problems, namely, working, income, and family problems. Sometimes, health information is not a first priority, so they are reluctant to join any campaign...

The findings illustrated that the local persons were appropriated as health messengers since the linguistic barrier was eliminated. Essentially, they were faithful to Islamic teaching; hence, it was easy for them to persuade Thai Muslim women using Islamic teaching, and to talk about religious practice. A Thai Muslim woman said that,

> …The VHV is a good messenger. I clearly understood what she said because she used the southern dialect. I feel content to ask her questions or to talk to her. It was an informal conversation, just talking." Another one said that, "She is Muslim, so she knows about the *Holy Qu'ran*. Talking about Islamic teaching by a Muslim is understandable…

The female Thai Muslim VHVs felt proud to be health messengers. They were more likely to implement the program and were eager to take his or her responsibility. A health messenger said that, "I like the month of implementation. I feel active. Sometimes, although it is not my schedule, I go there to observe others." Another said that, "I like to practice and demonstrate to others. Even though at first I was a little bit confused, the second time I found that it was not difficult."

A health messenger said that,

> ...I always relate my experience to them. I think it is not difficult, I just tell this message to others. We just talk together, I talk to them and they ask me something. If I do not know something relating to breast cancer disease, I

> will ask a PHCP...I cannot know everything. It is too difficult, I just talk. Anyway, I think I have the skill and confidence to demonstrate BSE to them because I have done BSE many times...

Nevertheless, a field researcher noted that the ability of the health messengers was significant for the success of the program implementation. She was concerned about the knowledge and self-confidence needed to talk with small groups. She said that,

> …Using local messengers is a good strategy; however, the weak point of this program is the ability of messengers. Approximately 50% of the trained VHVs were able to be messengers. Therefore, the recruiting and training process is very important….the messenger should have self-confidence and should have the ability to talk with the small group as well…

The participants were satisfied with the program implementation because they found the benefits in it. A Thai Muslim VHV said that,

> …This work is a benefit to us, for the villagers... Most villagers, and myself as well, had never known about this information. I do not know how to examine my breast by myself. I think all villagers were more likely to attend the sessions and do BSE…

A field researcher said,

> …This program has raised the health awareness of the villagers in general. Particularly, the Thai Muslim women, who were the target group of this study are now eager to join in the implementation session. After practicing BSE monthly, some asked me about the early signs of breast cancer. Due to the fact that two Thai Muslim women were found to have breast lumps, the villagers are more interested in breast cancer and BSE practice…

Another mentioned that the program increased the rate of BSE practice among the Thai Muslim women in the village. Even though it was a short-term effect, they agreed to continue the program. A PHCP said that,

> ...This program increased the percentage of the women who do BSE to 90%....We have found two women with breast lumps in this village, and found a woman with breast cancer in another village. They have been referred to Hatyai Hospital already. This is a benefit of the program. I reported these findings to the health station meeting, and planned to continue this program. For this village, the VHV will continue to work with and remind the villagers. Moreover, this program will be repeated in the other five villages in Chalung District…

Furthermore, the field researcher suggested that before implementing the program in other Muslim settings, a situation analysis was required first, especially

concerning acceptability and appropriateness because there were some differences in how strict the villagers' religious beliefs and practices were. She said that,

> …There are some differences in how strict the villagers' religious beliefs and practices were....Even though the program will be conducted in a similar setting, i.e. a Muslim village, the health care provider must be acquainted with that particular context. Conducting an analysis with regards to belief, daily living, culture, and tradition are required….The recruitment of local respected people to be messengers is a good idea…

2. The outcome evaluation

This part of the study presents the outcome evaluation of the program in terms of perception of breast cancer and BSE practice, BSE self-efficacy, and BSE practice among Thai Muslim women. The final program was implemented with 103 attendees, who were Thai Muslim women in the village. They were asked to complete the questionnaires before attending the program and three months later.

Their socio-demographic characteristics are presented in Table 2. The average age was 38.4 (SD = 10.9). Most (89.3 %) were married with the average number of children of three. Sixty-two attendees (60.2 %) had completed primary school, whereas 24.3 % had finished secondary school. The majority (69.9 %) worked on rubber plantations, and the others were housewives, vendors, and factory workers. The average family income per month was 5,375.70 Baht. With regard to menstruation history, most attendees (77.7 %) had regular menstruation, and 19.5 % were menopausal. Only one (1.9 %) had a family history of breast cancer in this case

an older sister. Eighty-seven attendees (84.5 %) had never received any information regarding BSE.

Table 2

Distribution of Attendees by Socio-demographic Characteristics (n = 103)

Socio-demographic characteristics	N	%
Age		
20 - 35 years	48	46.6
36 – 50 years	39	37.9
51 - 68 years	16	15.5
Marital status		
married	92	89.3
widow/divorce	7	6.8
single	4	3.9
Education		
no formal schooling	16	15.5
primary school	62	60.2
secondary school	25	24.3
Occupation		
rubber plantation maker	72	69.9
housewife	17	16.5
vender	11	10.7
factory worker	3	2.9

Table 2

Distribution of Attendees by Socio-demographic Characteristics (n = 103) (continued)

Socio-demographic characteristics	N	%
Family income per month (Baht)		
less than 3,000	19	18.5
3,001 – 6,000	69	67.0
6,001 – 9,000	7	6.8
more than 9,001	8	7.8
Menstruation history		
regular menstruation	80	77.7
menopausal	20	19.4
pregnant	3	3.0
Family history of breast cancer		
no	101	98.0
yes	2	2.0
Previously received information about BSE		
no	87	84.5
yes	16	15.5

Three months later, three attendances gave birth and moved to other villages, nine moved to work in other villages, and four had incomplete data. Consequently, 87 attendees (84.5 %) completed the instruments for testing the effectiveness of this program. The results included descriptive analysis and comparison of mean scores for each outcome variable: BSE perception, BSE self-efficacy, and BSE practice.

The descriptive analysis results showed that three months after attending the program, the mean scores of perceived severity of breast cancer and perceived benefits of BSE practice increased from 39.89 to 41.16 and from 32.22 to 33.78 respectively, whereas the mean score of the perceived susceptibility to breast cancer slightly decreased from 17.44 to 16.97, and the mean score of perceived barriers to practicing BSE decreased from 45.86 to 38.13. The mean score of BSE self-efficacy increased from 510.46 to 712.41. The mean score of BSE proficiency increased from 1.84 to 11.39. In addition, the results of the comparison of the mean score for each BSE variable showed that statistically significant differences between pre-test and post test were found in the perceived benefits of BSE ($p < .05$), perceived barriers to doing BSE ($p < .001$), BSE self-efficacy ($p < .001$), and BSE proficiency ($p < .001$) (Table 3).

Table 3

Comparison of the Mean Scores of BSE Variables (n = 87)

BSE Variables	Possible Range	Before		After		*t*
		M	*SD*	*M*	*SD*	
BSE Perception						
Perceived susceptibility	6-30	17.44	4.26	16.97	4.29	0.789
Perceived severity	10-50	39.89	6.26	41.16	4.78	-1.67
Perceived benefits	8-40	32.22	4.86	33.78	3.85	-2.55*
Perceived barriers	17-85	45.86	11.97	38.13	8.53	5.81***
BSE Self-Efficacy	1-1,200	510.46	272.53	712.41	208.25	-5.72***
BSE Proficiency	0-17	1.84	4.56	11.39	4.13	-15.20***

* $p < .05$, ** $p < .01$, *** $p < .001$

As regards BSE practice, three months after attending the program, the percentage of BSE practice among attendees had clearly increased from 18.4 % to 92.0 %. The analysis of the results of the McNemar test showed that the percentage of BSE practice three months after attending the program was significantly different from before ($p < .001$). Moreover, the percentage of attendees that had practiced BSE monthly or more than once per month had increased (Table 4).

Table 4

Comparison of BSE Practice of the Attendees Before and Three Months After Attending the Program (n = 87)

BSE practice	Before N (%)	After N (%)	McNemar Test
No	71 (81.61)	7(8.05)	1.69***
Yes	16 (18.39)	80 (91.95)	
more than once per month	3 (18.75)	17 (21.25)	
once per month	9 (56.25)	50 (62.50)	
once per 2-3 months	4 (25.00)	13 (16.25)	

*** $p < .001$

The findings of content analysis revealed the reasons for the attendees performing or not performing BSE. The most frequent reasons for performing BSE were being afraid of getting breast cancer (40.3%), following the advice of a respected person (22.4%), and looking for any abnormal sign (20.9%) (Table 5).

Table 5

The Attendees' Reasons for Performing BSE (n = 67)

Reasons of performing BSE	N	%
Being afraid of getting breast cancer	27	40.3
Following advice of a respected person	15	22.4
Looking for any abnormal change	14	20.9
Having free time for doing it	9	13.4
Taking care of breast as a part of the body	2	3.0

The most frequent reasons for not performing BSE were no self-confidence (35 %), no abnormal sign (30 %), and not enough time (30 %) (Table 6).

Table 6

The Attendees' Reasons for Not Performing BSE (n=20)

Reasons of not performing BSE	N	%
No self-confidence	7	35.0
No abnormal sign	6	30.0
Not enough time	6	30.0
No private area	1	5.0

Discussion

The results of this study demonstrated that the technical collaborative approach was appropriate strategy for develop a culturally sensitive educational program. The program positively affected BSE perception, self-efficacy, and practice among Thai Muslim women. The researcher provides a discussion, as follow.

The program development

The process of action research was essential strategy for developing the program. The participants had a chance to share their opinion and express their feelings towards BSE practice. The VHVs were encouraged to initially recognize the importance of performing BSE for women's health and ensured that it did not offend to Islamic teaching, religious practice or their culture. Consequently, they were essential contributors to the development of the program so that it would be acceptable in the context of this setting. Moreover, the action process could affect their learning as well in terms of having a sense of ownership in relation to the program. This feeling turned into the commitment that they should follow the program and motivated other village women. The potential of action research to promote health education in this study was congruent with the previous studies in other countries (Altpeter et al. 1998; Choudhry et al. 2002). Moreover, it was consistent with Choksamothong (2002), who developed a model for promoting BSE behavior among women attending a menopausal clinic. However, a particular had integrated advice from a physician and the presentation of pictures showing the

severity of the last stage of breast cancer. The program of this current study focused on culturally sensitive matters, such as the attendance's beliefs and living patterns, and using local persons, and the local language for program implementation. It was shown that BSE practice was motivated by the participants' own beliefs, Islamic teaching in relation to health, and that the practice was performed in harmony with their religious practices.

The effectiveness of the program

The program differed from the existing program, particularly in term of the strategy employed to communicate the BSE information to Thai Muslim women. However, the particular intervention based on the pre-specified theoretical framework, including motivational conversation, the HBM and self-efficacy, consequently demonstrated that the program had some effects on BSE perception, self-efficacy, and led to BSE practice.

The program evaluation after three months has showed that the mean score of perceived benefits of BSE practice increased, whereas the mean score of perceived barriers to do BSE decreased. These were significantly different, in part because of the motivational conversation concerning the women's own belief in taking care of the breast as a part of body, consistently with Islamic teaching in relation to health. The qualitative data showed that the attendees who had performed BSE monthly stated that they were afraid of getting breast cancer, and could look for any abnormal changes early by themselves. Moreover, they agreed that BSE practice was better for taking care of the breast as a part of body, and it was consistent with Islamic teaching

regarding taking care of their own health. Thus, the cultural barriers decreased initially. The BSE skill training provided an opportunity for the attendees carry out BSE on their own breasts and on the breast model with lumps. Furthermore, it created an ideal setting in which to talk about obstacles to performing BSE, thus decreasing the perceived barriers regarding BSE practice.

The mean score of perceived susceptibility to breast cancer and perceived severity of breast cancer were high both before and after attending the program. However, they were not significantly different. Theoretically, the mean score of perceived susceptibility to breast cancer should have increased after attending the program. Nevertheless, three months after attending the program, the majority of attendees found no abnormalities with their breasts. Gaining a sense of normal feeling regarding their own breasts for three months in this way could have decreased the mean score of perceived susceptibility to breast cancer. According to the concept of perceived severity, women who believe that breast cancer is a serious disease are more likely to perform BSE. The findings of this study indicated that before attending the program the attendees were concerned about the seriousness of breast cancer; nevertheless, they had never done BSE because they never knew about BSE practice. Hence, the attendees who had high mean scores on perceived severity of breast cancer without receiving BSE information could not perform BSE.

The mean score of BSE self-efficacy increased and was significantly higher than before attending the program. This is a partly because of the program activities, which focused on BSE skill training and which provided three sources of efficacy. These were enactive mastery experience by return demonstration with their own breasts and with the breast model with lumps, vicarious experience by seeing others'

succeed, and social persuasion through motivational conversation with the health messengers.

The percentage of attendees who do BSE practice was outstanding increased. Moreover, 83.7 % of those perform BSE monthly or more than once per month. These findings theoretically corresponded to the HBM that women who believe they were personally susceptible to breast cancer and that breast cancer was a serious disease were more likely to perform BSE. Women who perceived more benefits from BSE and fewer barriers to doing BSE would be more likely to perform BSE (Champion, 1993), which is congruent with the findings of previous studies in various countries (Champion, 1995; Champion & Scott, 1993; Lu, 2001; Chantharapat et al., 2000; Sawasdisingha et al., 2004). Moreover, increasing self-efficacy led to enhancing the BSE practice. These findings were also consistent with previous studies in various countries (Adderley-Kelly & Green, 1997; Clarke, Hill, Rassaby, White & Hirst, 1991; Miller, Shoda & Hurley, 1996; Mishra, Chavez, Magana, Nava, & et al., 1998).

CHAPTER 5

Conclusion and Recommendations

This chapter presents the findings of the study and its conclusion, implications for nursing, recommendations for further research, and limitations.

Findings and Conclusion

Action research using a technical-collaborative approach was conducted in a Thai Muslim village in rural of southern Thailand over a fourteen months period. The findings of rapid assessment showed that even though the PHCPs at the health station had distributed the BSE pamphlet to the Thai Muslim women in the village following the promoting of BSE practice policy, the majority (85.50 %) never received the BSE information. Only a few women (18.4%) had occasionally performed BSE. Given this information, then, there are several issues related to health care activities that one should be concerned about in order to promote BSE practice among Thai Muslim women in this setting.

1. Health behavior should be consistent with Islamic teaching. Muslims have faith in God as the creator of life. It was deemed that health care activities that are related to taking care of life would be acceptable. Essentially, the approval of the religious leader of the village was required in order to confirm that any such activity did not offend Islamic teaching and religious practice.

2. Health behavior should not offend Thai Muslim women's culture and tradition, particularly in term of modesty and appropriate manner.

3. A health promotion program should be sensitive to the women's background and living patterns. For example, the following were considered: using the language of the lay person in southern Thai dialect, availability the program from 2 - 4 p.m., and communicating by informal and private conversations among small groups.

Concerning these findings, the program was developed throughout the two cycles of action research. During the first cycle, three components were created. The implementation activities were planned. Six Thai Muslim VHVs, as health messengers, carried out the health message (culturally appropriate BSE information) to 28 Thai Muslim women (attendees). The implementation activities were integrated the motivational conversation and BSE skill training. Overall program was reflected and summarized in order to refine the program during the stage of re-planning of the second cycle. The program has been carried out for new 32 attendees by six health messengers. Every implementation was also reflected by the attendees and the health messengers. Six health messengers had improved their abilities in term of more confident and ready to carry out the program. The attendees were satisfied with the role of all health messengers. The culturally appropriate BSE information and educational materials were accepted as being consistent with Islamic teaching and appropriate for Thai Muslim women. Overall program activities were accepted and appreciated as reflected by one attendance that "I gained knowledge about breast cancer and BSE practice as well as perceived necessity of BSE practice. I would do BSE monthly."

This program consisted of three culturally appropriate components. The first and essential component was the ‘health messengers’. They should be the local person who has the following characteristics: 1) being a Thai Muslim woman, 2) being accepted by the villagers as being knowledgeable and skilful in BSE, and 3) having the ability to conduct small group activities. The second component was comprised of the ‘health message’. The essential aspect of this message was linking BSE information with Islamic teaching related to health practices and living patterns of Thai Muslim women. The culturally appropriate educational materials included: 1) a conversation script containing the culturally appropriate BSE information, which is precise, concise, understandable for the layperson, and in the southern dialect; 2) a BSE booklet containing the main idea of BSE, and illustrations of BSE procedures; 3) a BSE pamphlet containing knowledge about breast cancer and BSE practice, which is precise, concise, in visible letters, and uncomplicated, and, importantly, has illustrations of BSE procedures inside; and 4) a model of breast with lumps that is similar to human reality, small size and portable.

Last, the activities involved in program implementation should concern choosing a convenient and privacy place, an appropriate time, and the ability to carry out informal small group conversation using understandable language for local persons. Further, these implementation activities should integrate motivational conversation and BSE skill training.

In order to examine the effectiveness, the program was implemented to 103 Thai Muslim women in the village. Eighty-seven attendees (84.5 %) completed the questionnaires were age range 20 – 68 (mean = 38.4, SD = 10.9). Most (89.3 %) of those were married with an average number of children was three. Sixty-two

attendees (60.2 %) had completed primary school, whereas 24.3 % had finished secondary school. The majority (69.9 %) worked on rubber plantations, follow by housewives (16.5 %), vendors (10.7 %), and factory workers (2.9 %). With regard to menstruation history, most attendees (77.7 %) had regular menstruation, and 19.5 % were menopausal. Only one (1.9 %) had a family history of breast cancer.

The data analysis showed that three months after attending the program, the mean scores of the perceived severity of breast cancer, the perceived benefits of BSE practice, the BSE self-efficacy, and the BSE proficiency were increased, whereas the mean score of the perceived susceptibility to breast cancer, and perceived barriers to performing BSE were decreased. The comparison of the mean scores showed statistically significant differences between pre-test and post test were found in the perceived benefits of BSE ($p < .05$), the perceived barriers to doing BSE ($p < .001$), the BSE self-efficacy ($p < .001$), and the BSE proficiency ($p < .001$).

The percentage of attendees who do BSE increased from 18.4 % to 92.0 %. Moreover, 83.7 % of those had performed BSE monthly or more than once per month. The analysis of the results of the McNemar test showed that the percentage of BSE practice three months after attending the program was significantly different from before ($p < .001$).

Implications for Nursing

The findings of this study revealed that Thai Muslim women in rural areas of southern Thailand needed to be encouraged to perform BSE, especially because the data from the rapid assessment found that only 7.9 % of the women had performed

BSE. This research study exemplifies the need to develop and implement culturally sensitive educational programs for specific setting. An educational program that is consistent with Islamic teaching related to health and appropriate for context and living pattern is able to enhance BSE practice among Thai Muslim women. The female VHVs, who are local people with the same cultural belief and language, are helpful in conveying BSE information to the villagers. In addition, the researcher suggests that reinforcement is required for sustaining their behaviors. Furthermore, nurses can incorporate BSE information into other health promotion campaigns related to women's health.

Recommendations for Further Research

Additional research is needed to examine the long-term effectiveness of the program among Thai Muslim women. Replication of this work using a quasi-experiment or randomized control trial approach may provide stronger evidence for the effectiveness of the program. Furthermore, replication of this study in other settings that include of Thai Muslims or other vulnerable populations may be useful.

Limitations of the Study

The following are the limitations of the study;

1. The program was developed based on a specific situation and context, namely that of Thai Muslim women in rural areas of southern Thailand. Therefore, it has limitations in terms of its use to the general public in other settings, and even

though it is a Thai Muslim setting. Each Thai Muslim setting, particularly in the three border provinces, exhibited some differences in their religious practice, culture and language. Hence, a situation analysis and content approval from the religious leaders of those settings would be required before program implementation.

2. Because of the time limitation of this study, the researcher followed up BSE practice with Thai Muslim women in only a short period of time (3 months). In fact, the BSE practice was performed on a monthly on basis; hence, long-term follow up to determine long-term efficacy of the program is recommended.

3. Based on the collecting design, the perception variables were measured before attending the program (pretest) and three months after attending the program (posttest). The researcher did not measure posttest immediately after attending the program. Consequently, the direct effect of the program was not measured. The perceptions of the attendees three months later could be achieved by receiving information from other sources.

4. The effectiveness of the program was examined by comparing the variable cores between before and three months after attending the program (pre-and posttest). There was no effective comparison between this program and existing programs.

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APPENDICES

APPENDIX A

ETHICS COMMITTEE PERFOMA

No. 072/2004

CERTIFICATE OF ETHICAL CLEARANCE
Research Ethics Review Committee
Faculty of Nursing, Chiang Mai University

The Research Ethics Review Committee of the Faculty of Nursing, Chiang Mai University declares approval of

Research Title : Development of a Culturally Sensitive Educational Program to Enhance the Breast Self Examination Perception , Self Efficacy, and Practice Among Muslim Thai Women

Principal Investigator : Mrs. Hathairut Sangchan

Participating Institution : Doctoral Student, Faculty of Nursing, Chiang Mai University, Thailand

The above research project does not violate rights, well being, and/or endanger human subjects and is justified to conduct the research procedures as proposed.

This clearance is valid from the date of approval to October 31, 2005

Date of approval July ๒๐, 2004

.....
(Professor Dr.Wichit Srisuphan)
Chair, Research Ethics Review Committee
Faculty of Nursing, Chiang Mai University

.....
(Associate Professor Dr. Wipada Kunaviktikul)
Dean of Faculty of Nursing, Chiang Mai University

APPENDIX B

CONSENT FORM

ใบให้ข้อมูลผู้ร่วมวิจัย

ดิฉัน นางหทัยรัตน์ แสงจันทร์ นักศึกษาปริญญาเอก สาขาวิชาพยาบาลศาสตร์ คณะพยาบาลศาสตร์มหาวิทยาลัยเชียงใหม่ กำลังทำการศึกษาวิจัยเพื่อพัฒนาโปรแกรมการสอนที่เหมาะสมและสอดคล้องกับหลักปฏิบัติศาสนาอิสลาม เพื่อส่งเสริมให้ผู้หญิงไทยมุสลิมได้รับความรู้เกี่ยวมะเร็งเต้านมและการตรวจเต้านมด้วยตนเอง รับรู้ถึงโอกาสเสี่ยงต่อการเกิดโรคมะเร็งเต้านม ความรุนแรงของมะเร็งเต้านม ประโยชน์ของการตรวจเต้านมด้วยตนเอง และเพิ่มความสามารถและความเชื่อมั่นในการตรวจเต้านมด้วยตนเอง ซึ่งจะส่งผลให้ผู้หญิงไทยมุสลิมปฏิบัติการตรวจเต้านมด้วยตนเองได้อย่างถูกต้องและสม่ำเสมอทุกเดือน โปรแกรมการสอนดังกล่าวจำเป็นอย่างยิ่งที่จะต้องได้รับการพัฒนาโดยบุคคลผู้อาศัยอยู่ในพื้นที่และเข้าใจวัฒนธรรมวิถีชีวิตและความเชื่อตามหลักศาสนาอิสลามเป็นอย่างดี ดังนั้นการวิจัยครั้งนี้จึงต้องการเจ้าหน้าที่สาธารณสุขประจำสถานีอนามัย และอาสาสมัครสาธารณสุขประจำหมู่บ้าน (อสม.) เป็นผู้ร่วมวิจัย

เนื่องด้วยท่านเป็นผู้ที่มีคุณสมบัติดังกล่าว ดิฉันจึงใคร่ขอเชิญท่านเข้าร่วมการวิจัยครั้งนี้ หากท่านยินดีเข้าร่วมในการวิจัย ดิฉันใคร่ขอความร่วมมือให้ท่านมีส่วนร่วมในการดำเนินการวิจัย ซึ่งประกอบด้วย การศึกษาสถานการณ์ปัจจุบัน การพัฒนาโปรแกรมและวางแผนการปฏิบัติ การปฏิบัติตามแผน การสะท้อนการปฏิบัติ และ การประเมินผล โดยจะใช้เวลาในการดำเนินการทั้งหมดประมาณ 16 เดือน ในการมีส่วนร่วมดังกล่าว ท่านจะได้รับความรู้เรื่องโรคมะเร็งเต้านม สามารถตรวจเต้านมด้วยตนเองได้ และสามารถเผยแพร่ความรู้เรื่องการตรวจเต้านมด้วยตนเองให้กับผู้หญิงในหมู่บ้านได้ นอกจากนั้นท่านจะได้เรียนรู้เกี่ยวกับกระบวนการพัฒนาและส่งเสริมสุขภาพของประชาชนในหมู่บ้านอีกด้วย

ข้อมูลทั้งหมดที่ได้จากการวิจัยครั้งนี้ถูกเก็บไว้เป็นความลับ มีการใช้รหัสแทนชื่อจริงของท่าน การนำเสนอและอภิปรายข้อมูลจะทำในลักษณะของภาพรวมทั้งหมด สิทธิประโยชน์อื่น อันเกิดจากผลการวิจัยให้เป็นไปตามระเบียบ ข้อบังคับของมหาวิทยาลัยเชียงใหม่

การเข้าร่วมในการวิจัยครั้งนี้ ขึ้นอยู่กับการตัดสินใจของท่านเอง หากท่านต้องการที่จะปฏิเสธหรือออกจากการวิจัย ท่านมีสิทธิที่จะถอนตัวได้ทุกเมื่อ โดยจะไม่มีผลเสียใดๆ กับท่าน หากท่านมีข้อสงสัยประการใดเกี่ยวกับการวิจัยครั้งนี้ สามารถติดต่อขอข้อมูลเพิ่มเติมได้จาก

ผู้วิจัย: นางหทัยรัตน์ แสงจันทร์ ภาควิชาการพยาบาลศัลยศาสตร์ คณะพยาบาลศาสตร์ มหาวิทยาลัยสงขลานครินทร์ อำเภอหาดใหญ่ จังหวัดสงขลา 90110 โทร. 01-7485585

และหากท่านมีข้อสงสัยเกี่ยวกับสิทธิของผู้เข้าร่วมวิจัย ท่านสามารถติดต่อได้ที่

ประธานกรรมการจริยธรรมการวิจัย: ศาสตราจารย์เกียรติคุณ ดร. วิจิตร ศรีสุพรรณ คณะพยาบาลศาสตร์ มหาวิทยาลัยเชียงใหม่ 110 ถนนอินทวโรรส ตำบลศรีภูมิ อำเภอเมือง จังหวัดเชียงใหม่ 50200

คำยินยอมเข้าร่วมการวิจัย

ข้าพเจ้ารับทราบข้อมูลและเข้าใจข้อมูลที่ผู้ให้ข้อมูลอธิบายให้ทราบดังกล่าวข้างต้นแล้ว และยินดีเข้าร่วมการวิจัยครั้งนี้

ลงชื่อ_____(ผู้เข้าร่วมวิจัย)

ลงชื่อ_____(ผู้ให้ข้อมูล)

ลงชื่อ_____(พยาน)

ใบให้ข้อมูลอาสาสมัคร

ดิฉัน นางหทัยรัตน์ แสงจันทร์ นักศึกษาปริญญาเอก สาขาวิชาพยาบาลศาสตร์ คณะพยาบาลศาสตร์มหาวิทยาลัยเชียงใหม่ กำลังทำการศึกษาวิจัย เพื่อพัฒนาโปรแกรมการสอนที่เหมาะสมและสอดคล้องกับหลักปฏิบัติศาสนาอิสลาม เพื่อส่งเสริมให้ผู้หญิงไทยมุสลิมได้รับความรู้เกี่ยวมะเร็งเต้านมและการตรวจเต้านมด้วยตนเอง รับรู้ถึงโอกาสเสี่ยงต่อการเกิดโรคมะเร็งเต้านม ความรุนแรงของมะเร็งเต้านม ประโยชน์ของการตรวจเต้านมด้วยตนเอง และ เพิ่มความสามารถและความเชื่อมั่นในการตรวจเต้านมด้วยตนเอง ในการวิจัยครั้งนี้จะนำโปรแกรมการสอนที่พัฒนาขึ้นไปทดลองใช้ในกลุ่มอาสาสมัคร ซึ่งเป็นผู้หญิงไทยมุสลิม อายุ 20 ปีขึ้นไป ในหมู่ที่ 2 (บ้านม่วงค่าย) ตำบลฉลุง อำเภอหาดใหญ่ จังหวัดสงขลา จำนวน 90 ราย

เนื่องด้วยท่านเป็นผู้ที่มีคุณสมบัติดังกล่าว ดิฉันจึงใคร่ขอเชิญท่านเข้าร่วมการวิจัยครั้งนี้ หากท่านยินดีเข้าร่วมเป็นอาสาสมัคร ดิฉันใคร่ขอความร่วมมือให้ท่านเข้ารับการสอนตามโปรแกรมการสอนดังกล่าว และขอความร่วมมือในการตอบแบบสอบถาม 2 ครั้ง คือ ก่อนเข้ารับการสอน และหลังจากได้รับการสอนไปแล้ว 3 เดือน โดยจะใช้เวลาในการตอบแต่ละครั้งประมาณ 30 นาที การเข้าร่วมในการวิจัยนี้ ท่านจะได้รับความรู้เรื่องโรคมะเร็งเต้านมและได้รับการฝึกปฏิบัติจนสามารถตรวจเต้านมด้วยตนเองได้ ข้อมูลทั้งหมดของท่านจะถูกเก็บไว้เป็นความลับ มีการใช้รหัสแทนชื่อจริงของท่าน การนำเสนอและอภิปรายข้อมูลจะทำในลักษณะของภาพรวมทั้งหมด คำตอบของท่านจะไม่มีผลกระทบใด ๆ ต่อตัวท่าน สิทธิประโยชน์อื่น อันเกิดจากผลการวิจัยให้เป็นไปตามระเบียบ ข้อบังคับของมหาวิทยาลัยเชียงใหม่

การเข้าร่วมในการวิจัยครั้งนี้ ขึ้นอยู่กับการตัดสินใจของท่านเอง หากท่านต้องการที่จะปฏิเสธหรือออกจากการวิจัย ท่านมีสิทธิที่จะถอนตัวได้ทุกเมื่อ โดยจะไม่มีผลเสียใดๆ กับท่าน หากท่านมีข้อสงสัยประการใดเกี่ยวกับการวิจัยครั้งนี้ สามารถติดต่อขอข้อมูลเพิ่มเติมได้จาก

ผู้วิจัย: นางหทัยรัตน์ แสงจันทร์ ภาควิชาการพยาบาลศัลยศาสตร์ คณะพยาบาลศาสตร์ มหาวิทยาลัยสงขลานครินทร์ อำเภอหาดใหญ่ จังหวัดสงขลา 90110 โทร. 01-7485585

และหากท่านมีข้อสงสัยเกี่ยวกับสิทธิของผู้เข้าร่วมวิจัย ท่านสามารถติดต่อได้ที่

ประธานกรรมการจริยธรรมการวิจัย: ศาสตราจารย์เกียรติคุณ ดร. วิจิตร ศรีสุพรรณ คณะพยาบาลศาสตร์ มหาวิทยาลัยเชียงใหม่ 110 ถนนอินทวโรรส ตำบลศรีภูมิ อำเภอเมือง จังหวัดเชียงใหม่ 50200

คำยินยอมเข้าร่วมการวิจัย

ข้าพเจ้ารับทราบข้อมูลและเข้าใจข้อมูลที่ผู้ให้ข้อมูลอธิบายให้ทราบดังกล่าวข้างต้นแล้ว และยินดีเข้าร่วมการวิจัยครั้งนี้

ลงชื่อ_____(อาสาสมัคร)

ลงชื่อ_____(ผู้วิจัยหรือผู้ให้ข้อมูล)

ลงชื่อ_____(พยาน)

APPENDIX C

RAPID ASSESSMENT QUESTION GUIDE

The Rapid Assessment Question Guide (For Primary Health Care Provider)

1. How was BSE information distributed to female villagers residing at Ban Moung-kai Village?

2. Was a BSE promotion campaign specifically developed for the Thai Muslim women?

The Rapid Assessment Question Guide (For Village Health Volunteer and Thai Muslim Woman)

1. What was the living pattern of Thai Muslim women in the village?

2. What were the issues related to BSE practice for Thai Muslim women?

APPENDIX D

THE EDUCATIONAL MATERIALS

The educational materials included a motivational conversation script, a BSE Booklet, a BSE pamphlet, and a breast with lumps model.

1. Motivational conversation script

บทสนทนาจูงใจในการปฏิบัติการตรวจเต้านมด้วยตนเองสำหรับสตรีไทยมุสลิม

วัตถุประสงค์

1. เพื่อจูงใจให้สตรีไทยมุสลิมตระหนักถึงความสำคัญในการส่งเสริมสุขภาพตนเอง และดูแลสุขภาพตนเอง ซึ่งสอดคล้องกับหลักปฏิบัติของศาสนาอิสลาม

2. เพื่อจูงใจให้สตรีไทยมุสลิมตระหนักถึงความจำเป็นในตรวจเต้านมด้วยตนเอง ซึ่งเป็นส่วนหนึ่งของการดูแลสุขภาพตนเอง ตามหลักปฏิบัติของศาสนาอิสลาม

คำชี้แจง

อาสาสมัครสาธารณสุขประจำหมู่บ้าน ซึ่งทำหน้าที่เป็นผู้สื่อสาร จะใช้บทสนทนานี้เป็นแนวทางในการพูดคุยสร้างแรงจูงใจสตรีไทยมุสลิมในการตรวจเต้านมด้วยตนเอง ลักษณะของบทสนทนาเป็นการพูดคุยและใช้คำถามปลายเปิด ให้สตรีไทยมุสลิมเกิดการสะท้อนคิดว่าการดูแลสุขภาพเป็นเรื่องที่สอดคล้องกับหลักปฏิบัติของศาสนาอิสลาม และการตรวจเต้านมด้วยตนเองจะช่วยส่งเสริมให้มีการดูแลสุขภาพตนเองมากขึ้นและสามารถปฏิบัติได้สอดคล้องกับหลักปฏิบัติของศาสนาอิสลาม

เนื้อหา	บทสนทนาภาษาท้องถิ่นภาคใต้
“วันนี้เราจะมาคุยกันถึงเรื่องการดูแลร่างกายของเรากันเอง ตามหลักศาสนาอิสลาม เราเชื่อว่าชีวิตร่างกายเราแต่ละคน อัลเลาะห์ เป็นผู้ประทานมาให้ อัลเลาะห์กำหนดมาแล้วทั้งหมด” “การรักษาสุขภาพ เป็นหน้าที่ เป็นความรับผิดชอบของมุสลิมทุกคนต่อตัวเอง มุสลิมที่แข็งแรงนั้นดีกว่าและเป็นที่รักของอัลเลาะห์มากกว่ามุสลิมที่อ่อนแอ” ระหว่างการละหมาด เราได้ระลึกถึงอัลเลาะห์ จิตใจเป็นสุข สงบ มีสมาธิ ด้พักผ่อนและผ่อนคลายความเครียด อัลเลาะห์ให้ไราเลือกรับประทานอาหารที่สุก สะอาด และห้ามดื่มสุราสิ่งเสพติด หลักปฏิบัติเหล่านี้เป็นหลักการป้องกันโรคและส่งเสริมสุขภาพ” “บอกได้ไหมว่ามีวิธีการอะไรบ้างที่เป็นการดูแลสุขภาพร่างกาย” “มีวิธีการใดบ้างที่จะดูแลสุขภาพร่างกาย” “อะไรเป็นสิ่งที่ร่างกายเราต้องการ”	“ที่อิแหลงกัน กะเรื่อง การดูแลร่างกาย การดูแลรักษาร่างกาย สนใจร่างกาย เป็นสิ่งที่ดี ร่างกายเราอัลเลาะห์ ให้มา กำหนดมาแล้ว อัลเลาะห์ให้เจ็บกะเจ็บ อัลเลาะห์ให้ตายกะตาย มันเป็นเรื่องที่อัลเลาะห์ให้ทั้งเพ” “แต่เรากะต้องรักษาร่างกาย เป็นภาระเราเองที่อิต้องรักษาร่างกายให้แข็งแรง ถ้าร่างกายเราแข็งแรง อัลเลาะห์กะพอใจ” “ท่านนบี กะทำเป็นตัวอย่างแล้วว่า การรักษาตัวเองเป็นสิ่งที่ดี นบี ว่า อัลเลาะห์ให้สิ่งดีๆ กับทุกคน ถ้าอะไรที่มันอิไม่ดีก็เป็นเพราะเราทำของเราเอง” “ลองคิดแลว่า การดูแลรักษาร่างกาย สำคัญหม้าย” “เหตุผลไหร่ที่เราต้องดูแลรักษาร่างกาย” “เราทำกันโหยะๆ ทำกันทุกวันอยู่แล้ว ตามหลักศาสนา เราอาบน้ำ ล้างมือ ล้างตีนก่อนมะหยังทุกครั้ง วันละ 5 ครั้ง ร่างกายเราก็สะอาด ไม่ติดโรคไหร่ ตอนมะหยัง ใจเรากะเป็นสุข มีสมาธิ

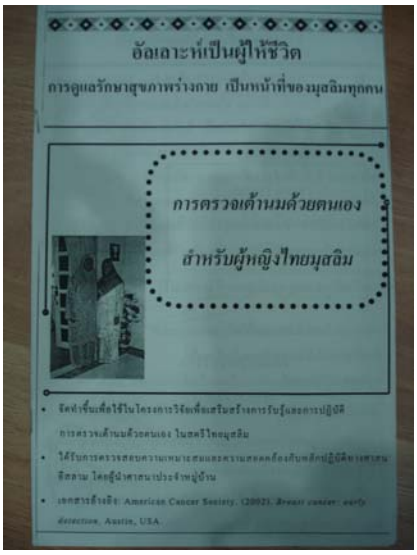
	ได้ผ่อน
เนื้อหา	บทสนทนาภาษาท้องถิ่นภาคใต้
“เมื่อเจ็บป่วย ศาสนาอิสลามให้ความสำคัญกับการรักษา เมื่อเกิดเป็นโรคแล้วต้องรีบรักษา ไม่ให้ปล่อยปละละเลย และไม่สิ้นหวัง ท่านนบีมุหัมมัด กล่าวว่า อัลเลาะห์รักเราทุกคน อัลลอฮจะไม่ส่งโรคมาโดยไม่มียาที่เหมาะสมกับโรคนั้นๆ โรคทุกชนิดมียารักษา” “การดูแลรักษาตัวเราเองเป็นเรื่องสำคัญ เราต้องไม่ปล่อยปละละเลยให้ร่างกายเป็นโรคจนรักษาไม่ได้ การตรวจร่างกายให้พบโรคตั้งแต่ระยะเริ่มแรกจึงเป็นการปฏิบัติที่ทำได้ ไม่มีข้อห้าม เพราะเมื่อพบโรคเราจะได้รีบรักษาให้หาย”	คลาย แล้วอัลเลาะห์กะให้เราเลือกกินของที่มีประโยชน์ ของสุก ของสะอาด อัลเลาะห์ห้ามกินเหล้า สิ่งเสพติด ทุกเรื่องที่เราทำกันอยู่ทั้งหมดทั้งเพ เป็นการดูแลรักษาร่างกายเราเองทั้งสิ้น” “ลองนึกแลว่า ตอนนี้ ทำไหร่มั่งที่เป็นการดูแลรักษาร่างกาย” “มีไหร่อีกมั่งหม้ายที่อิช่วยดูแลรักษาร่างกาย” “ร่างกายเรายังต้องดูแลไหร่ เพิ่มอีกมั่งหม้าย” “แล้วถ้าเกิดเจ็บไข้ไหร่ ไม่ใช่ว่าเจ็บแล้วอินั่งว่าให้มันหาย กะไม่ได้ เจ็บกะต้องรักษา ไม่ว่าเป็นไหร่ๆ ไม่ควรหมดหวัง อัลเลาะห์ไม่ทุ่มให้เราเป็นไหร่ นบีว่า อัลเลาะห์กำหนดให้ทุกโรครักษาได้ มีทางรักษาทั้งเพ ไม่ต้องหมดหวัง” “การดูแลรักษาร่างกายเป็นเรื่องสำคัญ ต้องไม่นั่งให้เป็นไปจนรักษาไม่ได้ ต้องรักษากันตั้งแต่แรกแรก ไม่มีข้อห้าม ที่ตัวเราเองจะอยากรู้ว่าร่างกายเราเป็นไหร่มั่ง ไม่บาป แต่เป็นการเรียนรู้
“เราทำอะไรกันบ้างที่เป็นการตรวจหาโรคใน	

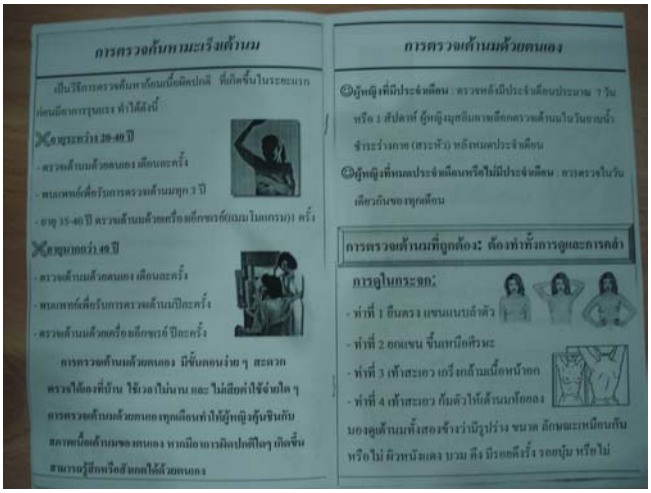
ระยะเริ่มแรก”	บางสิ่งบางอย่างของตัวเราเอง ถ้าสาๆว่า ไม่แน่ใจกะตรวจได้ ไม่ผิดศาสนา ไม่ใช่ว่าเราอิหาโรค แต่มัน
เนื้อหา	บทสนทนาภาษาท้องถิ่นภาคใต้
“คิดอย่างไรต่อการตรวจหาโรคในระยะเริ่มแรก” “เคยได้ยินอะไรบ้างที่เป็นการตรวจหาโรคในระยะเริ่มแรกในผู้หญิง” “ท่านนบีมุหัมมัด กล่าวว่าการหาความรู้เป็นสิ่งที่มุสลิมทุกคนควรปฏบัติ หลักศาสนาอิสลามสอนให้มุสลิม หาความรู้เพื่อจะได้ปฏิบัติตัวเพื่อดูแลสุขภาพ” “รู้จักโรคมะเร็งเต้านม การตรวจเต้านมด้วยตนเอง บ้างไหม” “ลองเล่าให้ฟังถึงสิ่งที่ได้ยินมา” “คิดอย่างไรเกี่ยวกับโรคมะเร็งเต้านมและการตรวจเต้านมด้วยตนเอง” “เราจะได้ประโยชน์อะไรจากการตรวจเต้านมด้วยตนเอง” “การตรวจเต้านมด้วยตนเอง เป็นการปฏิบัติที่ไม่	เป็นเรื่องจำเป็น ถ้าไม่บายไหร่ กะอิได้รักษาแต่แรก ๆ” “ตอนนี้ ได้ตรวจมั่งหม้ายว่าเป็นโรคไหร่มั่ง” “คิดพรือ ถ้าเค้าให้ตรวจหาโรค ว่าเป็นไหร่มั่งหม้าย” “รู้มั่งหม้ายว่า คนหญิงเค้าให้ตรวจร่างกายตัวเองพันพรือมั่ง” “นบี ว่า การหาความรู้เป็นสิ่งดี เราอิได้รู้ว่านอกเหนือที่ทำ ๆ กันอยู่แล้ว อาบน้ำมั่ง มะหยังมั่ง แล้วมีไหร่เหรยที่เป็นการรักษาร่างกาย” “รู้เรื่องการตรวจคลำนม แล้วหม้าย ที่เค้าว่าคนหญิง ต้องคลำแลว่าเป็นก้อนเป็นไหร่มั่งหม้าย” “ถ้ารู้มามั่งแล้ว ลองว่ามาแลว่าเค้าว่าพันพรือมั่งแล้ว” “แล้ว คลำแลของตัวเองแล้วมั่งหม้าย คิด

ขัดแย้งกับหลักศาสนาอิสลามที่ให้ผู้หญิงมุสลิมปกปิดร่างกายทุกส่วน เพราะเป็นการคลำเพื่อตรวจหาโรค อสม. ผู้หญิงที่เป็นมุสลิมจะเป็นคนสอน โดยจะสอนกันที่บ้านให้สามารถปฏิบัติกัน	พันพรือมั่ง คลำได้หม้าย อยากรู้หม้าย” “คลำแล้ว อิได้ประโยชน์ไหร่มั่งหม้าย” “ถ้าเรื่องอิสาว่าคลำนมตัวเองไม่ได้ ทีจริงแล้วกะ
เนื้อหา	บทสนทนาภาษาท้องถิ่นภาคใต้
ได้จริง” “โดยสรุป การดูแลร่างกาย ดูแลสุขภาพเป็นหน้าที่ของตัวเราเอง ซึ่งเราก็ปฏิบัติการอยู่ในชีวิตประจำวันอยู่แล้ว การตรวจร่างกายตัวเองเพื่อหาโรคที่เป็นในระยะเริ่มแรก เป็นส่วนหนึ่งของการรักษาสุขภาพ ที่สอดคล้องกับหลักปฏิบัติของศาสนาอิสลาม เราทุกคนควรเรียนรู้และปฏิบัติ” “พร้อมไหมที่จะเรียนรู้เกี่ยวกับการตรวจเต้านมด้วยตนเอง”	ไม่ได้ผิดหลักศาสนาไหร่ เพราะเราคลำเพื่อตรวจ เพื่อหาโรค ไม่ใช่คลำเล่น คลำหนุก แล้วกะคนหญิงทั้งเพ เราสอนกันเองเรียนกันเอง คนชายไม่ยุ่งไม่เกี่ยว แล้วกะตรวจคลำกันในบ้านในห้อง ไม่เปิดเผยไหร่ ไม่ผิด ไม่บาปไหร่” “สรุปว่า การดูแล รักษา ร่างกาย เป็นเรื่องที่หลักศาสนากะสอน เรากะทำกันอยู่โหยะ การตรวจร่างกายว่าเป็นไหร่มั่งหม้ายกะไม่ใช่เรื่องผิดศาสนาไหร่ เป็นเรื่องดี ที่เราจะได้รู้ว่าร่างกายเราเป็นไหร่มั่งตั้งแต่แรกแรก ได้รักษาทัน การตรวจคลำนมตัวเองนี้กะเป็นสิ่งหนึ่งที่คนหญิงทำได้ ถ้ามีก้อนมีไหร่กะได้รักษา” “ตอนนี้ พร้อมแล้วหม้าย ที่จะแหลงกันเรื่องการตรวจคลำนมตัวเอง ว่ามันเป็นพันพรือ ทำพันพรือไหร่”

2. BSE Booklet

3. BSE Pamphlet





4. Breast with Lumps Model

APPENDIX E

QUESTION GUIDE FOR PROGRAM IMPLEMENTATION REFLECTION

1. What opinions do you have about the messengers, the message, and the educational materials?

2. What feelings do you have about the implementation session?

3. What, if any, are the problems of this implementation?

4. How should the messengers, the message, the educational materials, and the implementation session refined?

APPENDIX F

QUESTION GUIDE FOR REFLECTION ON PROCESS OF PROGRAM DEVELOPMENT, PROGRAM COMPONENT, AND PROGRAM IMPLEMENTATION

1. How do you think about the process of this program development?

2. How do you think about three components of this program: the messengers, the message and the educational materials, and the session of motivational conversation and BSE skill training?

3. How do you think about the program implementation?

APPENDIX G

DEMOGRAPHIC BACKGROUND SHEET

1. Age _____years
2. Marital status
   - □ 1. Single
   - □ 2. Married
   - □ 3. Widow / Divorce
3. Number of children_____
4. Education
   - □ 1. No formal schooling
   - □ 2. Primary school grade 4
   - □ 3. Primary school grade 6 or 7
   - □ 4. Secondary school
   - □ 5. Certificate / Diploma
   - □ 6. Undergraduate
5. Occupation
   - □ 1. Agriculture / rubber plantation maker
   - □ 2. Vender
   - □ 3. Factory worker
   - □ 4. Civil servant
   - □ 5. Housewife
6. Income per month _____Baht
7. Do you have any sign of breast disease?
   - □ 1. No
   - □ 2. Yes, please identify_____
8. Do your female relatives have breast disease or breast cancer?
   - □ 1. No
   - □ 2. Yes, please identify_____
9. Do you have received information about breast disease / breast cancer / breast self examination?
   - □ 1. No
   - □ 2. Yes, please identify sources of the information _____

แบบสอบถามข้อมูลทั่วไป

คำชี้แจง: แบบสอบถามฉบับนี้ เป็นข้อคำถามเกี่ยวกับข้อมูลทั่วไปของบุคคล ประวัติการเจ็บป่วยด้วยโรคเกี่ยวกับเต้านม และการได้รับข้อมูลเกี่ยวกับการตรวจเต้านมด้วยตนเอง จำนวน 9 ข้อ กรุณาตอบหรือเลือกตอบตามความเป็นจริง

1. ปัจจุบันท่านอายุ_____ปี
2. ขณะนี้สถานภาพสมรสของท่านเป็นอย่างไร

   ☐ 1.โสด ☐ 2. คู่

   ☐ 3. หม้าย / หย่า / แยก
3. ท่านมีบุตรจำนวน_____คน
4. ท่านจบการศึกษาระดับใด

   ☐ 1. ไม่เข้ารับการศึกษา ☐ 5. มัธยมศึกษาตอนปลาย

   ☐ 2. ประถมศึกษาปีที่ 4 ☐ 6. ประกาศนียบัตรวิชาชีพ

   ☐ 3. ประถมศึกษาปีที่ 6 หรือ 7 ☐ 7. ประกาศนียบัตรวิชาชีพชั้นสูง / อนุปริญญา

   ☐ 4. มัธยมศึกษาตอนต้น ☐ 8. ปริญญาตรี
5. ปัจจุบันท่านประกอบอาชีพอะไร

   ☐ 1. เกษตรกร (ทำนา ทำสวน ประมง) ☐ 4. ลูกจ้าง/พนักงานบริษัท

   ☐ 2. ค้าขาย (ร้านขายของ/แผงขายของในตลาด) ☐ 5. รับราชการ/รัฐวิสาหกิจ

   ☐ 3. รับจ้างทั่วไป ☐ 6. อื่นๆ ระบุ _____
6. รายได้ของครอบครัวท่าน_____บาท/เดือน หรือ _____บาท/วัน

7. ท่านมีประวัติการเจ็บป่วยหรือได้รับการวินิจฉัยว่าเป็นโรคเกี่ยวกับเต้านมหรือไม่

   □ 1. ไม่มี

   □ 2. มี ระบุเกี่ยวกับโรคที่เป็น_____

8. สมาชิกในครอบครัวของท่านที่เป็นผู้หญิง (แม่ พี่สาว น้องสาว ป้า ยาย บุตรสาว) มีประวัติการเจ็บป่วยหรือได้รับการวินิจฉัยว่าเป็นโรคเกี่ยวกับเต้านมหรือไม่

   □ 1. ไม่มี

   □ 2. มี ระบุผู้ที่เป็นและความเจ็บป่วยหรือโรคที่เป็น_____

9. ท่านเคยได้รับข้อมูลเกี่ยวกับโรคมะเร็งเต้านม หรือ การตรวจเต้านมด้วยตนเองหรือไม่

   □ 1. ไม่ได้รับ

   □ 2. ได้รับ ระบุข้อมูลที่ได้รับและแหล่งข้อมูล _____

APPENDIX H

Permission to Modify the Champion's Health Belief Model

INDIANA UNIVERSITY

SCHOOL OF NURSING

June 9, 2003

Ms. Hathairat Sangchan
4134 Apt #2
12th Avenue NE
Seattle, WA 98105

Dear Ms. Sangchan,

Thank you for your interest in my work. Enclosed is the instrument you requested. You have permission to revise the tool for your use as long as you cite my work and send me an abstract of your completed project.

Sincerely,

Victoria Champion

Victoria Champion, DNS, RN, FAAN
Associate Dean for Research
Mary Margaret Walther/
Distinguished Professor of Nursing
Director of Cancer Control

VC:dg

Enclosure

CENTER FOR NURSING RESEARCH

1111 Middle Drive
Indianapolis, Indiana
46202-5107

317-278-2036
Fax: 317-278-2021

Located on the campus of
Indiana University
Purdue University
Indianapolis

APPENDIX I

The BSE Perception Scale for Thai Muslim Women

Instruction: We would like to know your beliefs about: your susceptibility to breast cancer, your seriousness of breast cancer, benefits for you to do breast self-examination, and barriers for you to do breast self-examination.

Please rate each item according to your belief.

Perception	**Strongly disagree (1)**	**Disagree (2)**	**Neutral (3)**	**Agree (4)**	**Strongly agree (5)**
Susceptibility to breast cancer 1. It is extremely likely I will get breast cancer in the future 2. It is possible I will get breast cancer . . 6. I may get breast cancer according to Allah.					
Seriousness of breast cancer 7. Thinking or talking about breast cancer, I feel fear. 8. Breast cancer is serious and chronic illness . . 15. If I get breast cancer, my husband or boy friend may neglect or leave. 16. If I get breast cancer, I am going to die. **Benefits of Breast self-examination (BSE)** 17. When I do BSE I feel good about myself 18. When I do BSE I take care my body which is a gift of Allah (Following Islamic teaching) . . 24. If I complete BSE monthly I will decrease my chance of dying from breast cancer					

Perception	**Strongly disagree (1)**	**Disagree (2)**	**Neutral (3)**	**Agree (4)**	**Strongly agree (5)**
Barriers to do breast self-examination (BSE) 25. I had never received information about BSE. 26. Doing BSE monthly will make me worry about breast cancer. . . 41. According to Islamic teaching, I should ask permission of my husband before doing BSE.					

แบบสอบถามรูปแบบความเชื่อเกี่ยวกับโรคมะเร็งเต้านมและการตรวจเต้านมด้วยตนเอง

คำชี้แจง: แบบสอบถามฉบับนี้ เป็นข้อความเกี่ยวกับการรับรู้ของท่านเกี่ยวกับโรคมะเร็งเต้านม และการตรวจเต้านมด้วยตนเอง ประกอบด้วยข้อคำถาม 4 ส่วน คือ การรับรู้ความเสี่ยงต่อการเป็นมะเร็งเต้านม การรับรู้ความรุนแรงของโรคมะเร็งเต้านม การรับรู้ประโยชน์ของการตรวจเต้านมด้วยตนเอง การรับรู้อุปสรรคของการตรวจเต้านมด้วยตนเอง กรุณาตอบแบบสอบถามโดยการทำเครื่องหมาย / ลงในช่องที่ตรงกับระดับการรับรู้ของท่าน ดังนี้คือ

เห็นด้วยอย่างยิ่ง หมายถึง การรับรู้ของท่านตรงกับข้อความนั้นอย่างมาก

เห็นด้วย หมายถึง การรับรู้ของท่านตรงกับข้อความนั้น

ไม่แน่ใจ หมายถึง ท่านไม่สามารถบอกได้ว่าท่านรับรู้ตามข้อความนั้นหรือไม่

ไม่เห็นด้วย หมายถึง การรับรู้ของท่านไม่ตรงกับข้อความนั้น

ไม่เห็นด้วยอย่างยิ่ง หมายถึง การรับรู้ของท่านไม่ตรงกับข้อความนั้นอย่างมาก

ข้อความ	ระดับการรับรู้				
	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
การรับรู้ความเสี่ยงต่อการเป็นมะเร็งเต้านม					
1. เป็นไปได้อย่างมากที่ฉันจะเป็นมะเร็งเต้านม					
2. เป็นไปได้ที่ฉันจะเป็นมะเร็งเต้านม					
.					
.					
6. ฉันจะเป็นหรือไม่ ขึ้นอยู่กับอัลเลาะห์กำหนดมา					

ข้อความ	ระดับการรับรู้				
	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
การรับรู้ความรุนแรงของโรคมะเร็งเต้านม					
7. ฉันรู้สึกกลัวเมื่อคิดหรือพูดถึงโรคมะเร็งเต้านม					
8. มะเร็งเต้านมเป็นโรคที่รุนแรงและเรื้อรัง					
.					
.					
.					
15. ถ้าฉันเป็นมะเร็งเต้านม สามีหรือแฟนอาจจะทิ้งฉันไป					
16. ถ้าฉันเป็นมะเร็งเต้านม ฉันอาจจะต้องเสียชีวิต					
การรับรู้ประโยชน์ของการตรวจเต้านมด้วยตนเอง					
17. เมื่อฉันตรวจเต้านมด้วยตนเองแล้ว ทำให้ฉันรู้สึกสบายใจ					
18. เมื่อฉันตรวจเต้านมด้วยตนเอง ฉันรู้สึกว่าได้ดูแลร่างกาย ซึ่งเป็นสิ่งที่อัลเลาะห์ให้มา (ได้ปฏิบัติตามคำสอนของศาสนาอิสลาม)					
.					
.					

ข้อความ	ระดับการรับรู้				
	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
.					
24. ถ้าฉันตรวจเต้านมด้วยตนเองทุกเดือน อาจจะช่วยลดโอกาสที่ฉันจะตายจากมะเร็งเต้านม					
การรับรู้อุปสรรคของการตรวจเต้านมด้วยตนเอง					
25. ฉันไม่เคยได้ยินหรือไม่เคยได้รับรู้ข้อมูลเกี่ยวกับการตรวจเต้านมด้วยตนเอง					
26. การตรวจเต้านมด้วยตนเองทุกเดือน จะทำให้ฉันกังวลเกี่ยวกับมะเร็งเต้านม เพราะกลัวว่าจะคลำพบก้อนผิดปกติ					
.					
.					
.					
41. ตามหลักศาสนาอิสลาม ฉันต้องขออนุญาตสามีก่อน ตรวจเต้านมด้วยตนเอง					

APPENDIX J

The Lewis and Sainitzer's BSE Self-Efficacy Scale

Instruction:

We would like to know how confident or sure you are in doing breast self-examination.Please rate your degree of confidence by circle a number from 1 to 100 using the scale given below. Rate your confidence if you were asked to perform the tasks TODAY.

How confident are you that you can:

1. Visually look at your breasts and see unusual or other-than-normal things about them?

0	10	20	30	40	50	60	70	80	90	100
Cannot					Moderately					Crtain
do at all					certain can do					cando

2. Notices when your breasts look differently than they usually do?

0	10	20	30	40	50	60	70	80	90	100
Cannot					Moderately					Certain
do at all					certain can do					can do

.

..

12. Know what you would do if you felt a lump while doing BSE?

0	10	20	30	40	50	60	70	80	90	100
Cannot					Moderately					Certain
do at all					certain can do					can do

แบบสอบถามการรับรู้สมรรถนะแห่งตนในการตรวจเต้านมด้วยตนเอง

คำชี้แจง : แบบสอบถามฉบับนี้เป็นข้อคำถามเกี่ยวกับการรับรู้สมรรถนะแห่งตนในการตรวจเต้านมด้วยตนเอง ประกอบด้วยข้อคำถามจำนวน 12 ข้อ กรุณาอ่านข้อความในแต่ละข้อ และตอบว่าท่านมีความมั่นใจในความสามารถของตนเองในการปฏิบัติตามข้อความนั้น ๆ เพียงใด โดยการเลือกวงกลมตัวเลขระดับความมั่นใจ ตั้งแต่ 0 หมายถึง ท่านไม่มั่นใจในการปฏิบัติตามข้อความนั้น จนถึง 100 หมายถึง ท่านมั่นใจมากที่สุดในการปฏิบัติตามข้อความนั้น

ท่านมีความมั่นใจในความสามารถของตนเองมากเท่าไร

1. มองดูเต้านมของตนเองและเห็นความผิดปกติหรือสิ่งที่แตกต่างไปจากเดิม

0 10 20 30 40 50 60 70 80 90 100

ไม่สามารถทำได้ ทำได้ สามารถทำได้แน่นอน

2. สังเกตได้ว่าเต้านมของตนเองมีบางอย่างแตกต่างไปจากเดิม

0 10 20 30 40 50 60 70 80 90 100

ไม่สามารถทำได้ ทำได้ สามารถทำได้แน่นอน

.

.

.

12. รู้ว่าควรทำอย่างไร ถ้ารู้สึกว่าพบก้อนเนื้อผิดปกติ

0 10 20 30 40 50 60 70 80 90 100

ไม่สามารถทำได้ ทำได้ สามารถทำได้แน่นอน

APPENDIX K

The BSE Practice Questionnaire

1. Have you done BSE within the last three months?

□ 1. No, because_____

□ 2. Yes, because_____

If your answer is “NO”, skip item 2-4.

2. How often have you done BSE within the last three months?

□ 1. Do more than monthly

□ 2. Do every month

□ 3. Do less than monthly

3. If you are still menstruating, when have you done BSE each month?

□ 1. 1 week pre-menstruation period

□ 2. The first day of your menstruating

□ 3. 1 week post- menstruation period

□ 3. etc., please identify _____

4. If you are post-menopausal, when have you done BSE each month?

□ 1. Convenient day

□ 2. The first day of month

□ 3. etc., please identify _____

แบบสอบถามการปฏิบัติการตรวจเต้านมด้วยตนเอง

คำชี้แจง: แบบสอบถามฉบับนี้ เป็นข้อคำถามเกี่ยวกับการปฏิบัติการตรวจเต้านมด้วยตนเองในช่วงเวลา 3 เดือนที่ผ่านมา กรุณาเลือกตอบตามความเป็นจริง

1. ในช่วง 3 เดือนที่ผ่านมา ท่านตรวจเต้านมด้วยตนเองหรือไม่

[ ] 1. ตรวจ เพราะ_____

[ ] 2. ไม่ตรวจ เพราะ_____

ถ้าไม่ตรวจ ไม่ต้องตอบข้อ 2 – 4 ข้ามไปตอบแบบสอบถามส่วนที่ 3

2. ในช่วงเวลา 3 เดือนที่ผ่านมา ท่านตรวจเต้านมด้วยตนเองบ่อยเพียงใด

[ ] 1. ตรวจบ่อย ๆ มากกว่าหนึ่งครั้งต่อเดือน

[ ] 2. ตรวจเดือนละครั้ง

[ ] 3. ตรวจน้อยกว่าเดือนละครั้ง

3. สำหรับท่านที่มีประจำเดือนตามปกติ ท่านตรวจเต้านมด้วยตนเองในช่วงใดของแต่ละเดือน

[ ] 1. 1 สัปดาห์ก่อนมีประจำเดือน

[ ] 2. วันแรกของการมีประจำเดือน

[ ] 3. 1 สัปดาห์นับจากวันแรกของการมีประจำเดือน

[ ] 4. อื่น ๆ ระบุ _____

4. สำหรับท่านที่หมดประจำเดือนแล้ว ท่านตรวจเต้านมด้วยตนเองในช่วงใดของแต่ละเดือน

[ ] 1. ไม่แน่นอน วันไหนก็ได้ที่สะดวก

[ ] 2. วันเดียวกันของทุกเดือน [ ] 3. อื่น ๆ ระบุ _____

APPENDIX L

The BSE Proficiency Checklist

Instruction: Observe each women doing BSE

BSE behavior	Demonstrated	Not demonstrated
Looking in mirror when standing		
1. Hands held at sides.		
2. Hands held above head		
3. Hands placed on hips		
4. Look for symmetry, size, shape, puckering, dimpling, skin changes, or lesions		
Palpation when lying down or taking a shower		
5. Lie down with a pillow under right shoulder		
6. Place right arm behind head		
7. Use finger pads of the left hand for pressing firmly on your right breast		
.		
.		
.		
17. Feel normal breast or identify lumps or thickening or hardening, or changed tissue		

แบบสังเกตพฤติกรรมการปฏิบัติการตรวจเต้านมด้วยตนเอง

คำชี้แจง : แบบสังเกตฉบับนี้ เป็นข้อความเกี่ยวกับพฤติกรรมการปฏิบัติการตรวจเต้านมด้วยตนเอง ประกอบด้วย ท่าทางการตรวจ รูปแบบและแรงกดในการตรวจ บริเวณที่ตรวจ และการระบุความผิดปกติที่พบ กรุณาเลือกตอบโดยการทำเครื่องหมาย / ลงในช่องความถูกต้องของพฤติกรรมที่สังเกตได้ ดังนี้

ปฏิบัติถูกต้อง หมายถึง ปฏิบัติพฤติกรรมนั้นได้อย่างถูกต้อง

ไม่ถูกต้องหรือไม่ปฏิบัติ หมายถึง ปฏิบัติพฤติกรรมนั้นไม่ถูกต้องหรือไม่ได้ปฏิบัติ

พฤติกรรมการตรวจเต้านมด้วยตนเอง	ลักษณะพฤติกรรม	
	ปฏิบัติถูกต้อง	ไม่ถูกต้องหรือไม่ปฏิบัติ
ดูเต้านมหน้ากระจก (ดูทั้งด้านหน้าตรง และ ด้านข้างลำตัวซ้ายและขวา) 1. ยืนตรง แขนทั้งสองข้างแนบลำตัว 2. ยืนตรง ยกแขนทั้งสองข้างขึ้นเหนือศีรษะ 3. ยืนตรง มือทั้งสองข้างกดลงบนสะโพกพร้อมทั้งเกร็งหน้าอก และก้มตัวลงให้เต้านมห้อยลง 4. สังเกตเต้านมทั้งสองข้าง ขนาดใกล้เคียงกัน, รูปร่าง, รอยบุ๋ม/ดึงรั้ง **การคลำ (สามารถเลือกคลำในท่านอนราบ หรือ ท่านั่ง หรือท่ายืน หรือขณะอาบน้ำ ท่าใดท่าหนึ่ง)** 5. นอนราบ ใช้หมอนหรือผ้าวางใต้ไหล่ข้างเดียวกับเต้านมที่จะตรวจ		

พฤติกรรมการตรวจเต้านมด้วยตนเอง	ลักษณะพฤติกรรม	
	ปฏิบัติถูกต้อง	ไม่ถูกต้อง หรือไม่ปฏิบัติ
6. ขณะนอนราบ ยกแขนข้างเดียวกับเต้านมที่จะตรวจ ขึ้นเหนือศีรษะ ใช้มือด้านตรงข้ามกับเต้านมที่จะตรวจ คลำเต้านม 7. ขณะนั่ง หรือ ขณะยืน หรือ ขณะอาบน้ำ ยกแขนข้างเดียวกับเต้านมที่จะตรวจ ขึ้นเหนือศีรษะ ใช้มือด้านตรงข้ามกับเต้านมที่จะตรวจ คลำเต้านม . . 17. บอกได้ว่าเนื้อเต้านมที่ตรวจเป็นปกติ หรือ มีอาการผิดปกติใด ๆ เกิดขึ้น เช่น เป็นก้อนแข็ง เป็นไต เจ็บ ปวด ตึง เป็นต้น		

APPENDIX M

LIST OF EXPERTS FOR CONTENT VALIDITY OF INSTRUMENTS

Sakol Singha, M.D., Ph.D

Department of Surgical, Faculty of Medicine

Prince of Songkla University, Thailand

Associate Prof. Sopen Chunaun, Ph.D. (Nursing)

Department of Obstetric Nursing, Faculty of Nursing

Prince of Songkla University, Thailand

Nongnut Noonyung, Ph.D. (Nursing)

Department of Administration Nursing, Faculty of Nursing

Prince of Songkla University, Thailand

Assistant Prof. Pranom Nupetch, M.Sc. (Physiology)

Department of Obstetric Nursing, Faculty of Nursing

Prince of Songkla University, Thailand

Paradee Prechawitayakul, B.Sc. (Nursing and Midwifery)

Cancer Unit, Songklanakarin Hospital

Prince of Songkla University, Thailand

APPENDIX N

CONTENT VALIDITY INDEX

$$\text{Content Validity Index (CVI)} = \frac{\text{Number of agree item}}{\text{Total item}}$$

1. CVI of the BSE Perception Scale for Thai Muslim Women

Agreement of expert 1 and expert 2	=	0.9024
Agreement of expert 1 and expert 3	=	0.9756
Agreement of expert 1 and expert 4	=	1.0
Agreement of expert 1 and expert 5	=	1.0
Agreement of expert 2 and expert 3	=	0.8780
Agreement of expert 2 and expert 4	=	0.9204
Agreement of expert 2 and expert 5	=	0.9024
Agreement of expert 3 and expert 4	=	0.9756
Agreement of expert 3 and expert 5	=	0.9756
Agreement of expert 4 and expert 5	=	1.0
Total	=	9.5127
CVI	=	0.9513

2. CVI of the Lewis and Sainitzer's BSE Self-Efficacy Scale

Agreement of expert 1 and expert 2	=	0.8333
Agreement of expert 1 and expert 3	=	0.9166

Agreement of expert 1 and expert 4	=	0.9166
Agreement of expert 1 and expert 5	=	1.0
Agreement of expert 2 and expert 3	=	0.8333
Agreement of expert 2 and expert 4	=	0.8333
Agreement of expert 2 and expert 5	=	0.8333
Agreement of expert 3 and expert 4	=	0.8333
Agreement of expert 3 and expert 5	=	0.9166
Agreement of expert 4 and expert 5	=	0.9166
Total	=	8.8329
CVI	=	.8833

3. CVI of the BSE Practice Questionnaire

Agreement of expert 1 and expert 2	=	1.0
Agreement of expert 1 and expert 3	=	1.0
Agreement of expert 1 and expert 4	=	1.0
Agreement of expert 1 and expert 5	=	1.0
Agreement of expert 2 and expert 3	=	1.0
Agreement of expert 2 and expert 4	=	1.0
Agreement of expert 2 and expert 5	=	1.0
Agreement of expert 3 and expert 4	=	1.0
Agreement of expert 3 and expert 5	=	1.0

Agreement of expert 4 and expert 5	=	1.0
Total	=	10.0
CVI	=	1.0

4. CVI of the BSE Proficiency Checklist

Agreement of expert 1 and expert 2	=	0.8823
Agreement of expert 1 and expert 3	=	0.9411
Agreement of expert 1 and expert 4	=	1.0
Agreement of expert 1 and expert 5	=	1.0
Agreement of expert 2 and expert 3	=	0.8823
Agreement of expert 2 and expert 4	=	0.8823
Agreement of expert 2 and expert 5	=	0.8823
Agreement of expert 3 and expert 4	=	0.9411
Agreement of expert 3 and expert 5	=	0.9411
Agreement of expert 4 and expert 5	=	1.0
Total	=	9.3525
CVI	=	.9353