

CULTURAL BELIEFS AND ATTITUDES TOWARD HEALTH AND HEALTH CARE
AMONG CHINESE-BORN IMMIGRANT WOMEN: A FOCUSED ETHNOGRAPHIC
APPROACH

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ABSTRACT

MENG ZHAO: Cultural Beliefs and Attitudes toward Health and Health Care among Chinese-Born Immigrant Women: A Focused Ethnographic Approach
(Under the direction of Noreen Esposito)

Chinese-born immigrant women, after immigrating to the United States, encounter cross-cultural challenges regarding their health care practices. These challenges come from their different cultural beliefs, views, and attitudes about health and health care as well as the systematic and structural differences in the health care system between China and the United States. Although a large number of health care professionals have acknowledged the influence of cultural health beliefs on Chinese-born immigrant women's utilization of health care services, current understanding of these women's cultural health beliefs is limited and draws heavily on expert opinions or clinical anecdotes. Little is known about how these women view or perceive health and health care practice in the United States, and how their cultural health beliefs differ from the other ethnic groups or immigrant groups in the United States.

Taking the practice of screening mammography as an example, this study applied a focused ethnographic approach to explore Chinese-born immigrant women's health beliefs within the context of the local Chinese community. Through in-depth interviews with 15 Chinese-born immigrant women and participant observation with 11 of them, the findings of this study reinforce and support the previous literature on the conclusion that although Chinese-born immigrant women share some beliefs with the other immigrant groups; they

have their unique cultural health beliefs. Findings also add new insights in current understanding of these women's cultural health beliefs. Through socialization, Chinese-born immigrant women are connected and influenced by the community. They mainly referred to their friends or the internet for health information. Therefore, a community-based or internet-based health education program which is culturally competent may be useful in improving Chinese-born immigrant women's use of U.S. health care services. Considering that the participants of this study were recruited in the central North Carolina, the findings are locally applicable but might not be generalized to the Chinese-born immigrant women residing in other U.S. areas. In addition, the findings might not be generalized to other age groups in terms of their cultural health beliefs without cautious examination.

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CHAPTER 1

INTRODUCTION TO THE STUDY

Chinese-born immigrant women, after immigrating to the United States, encounter cross-cultural challenges regarding their health care practices (Tseng, Chang, & Nishizono, 2005). These challenges come from their different cultural beliefs, views, and attitudes about health and health care as well as the systematic and structural differences in the health care system between China and the United States (Chua, Mok, Kwan, Yeo, & Zee, 2005). Although a large number of health care professionals have acknowledged the influence of cultural health beliefs on Chinese-born immigrant women's utilization of health care practice (Chua et al., 2005; Tseng et al., 2005), current understanding of these women's cultural health beliefs is limited and draws heavily on expert opinions or clinical anecdotes (Tseng et al., 2005). Little is known about how these women view or perceive health and health care practice in the U.S., and how their health beliefs differ from other immigrant groups such as other Asians or Latinos.

Purpose of the Study

The purpose of this study is to apply a focused ethnographic approach to explore Chinese-born immigrant women's health beliefs within the context of the local Chinese community, and therefore have insights in how their cultural health beliefs influence their use of health care practices. I took the screening mammography as an example of a

health practice because there is a systematic cultural difference in breast cancer screening policies and practices between the U.S. and China. In the United States, routine mammography screening has been recommended as the standard for breast cancer early detection for women aged 50 or above by most health care organizations (Centers for Disease Control and Prevention [CDC], 2011; U.S. Preventive Services Task Force [USPSTF], 2009). Moreover, women aged between 40 and 49 are encouraged to consult with their doctors for the need of screening mammography (CDC, 2011). However, in China, it is not a population-based screening program, and women in China rarely get routine mammography (Wong, Kuntz, Cowling, & Leung, 2007; Woo, Kim, & Leung, 2007). The difference in screening mammography practice between the U.S. and China makes the Chinese-born immigrant women a unique cultural group to examine their cultural health beliefs within the context of a Chinese community. Therefore, the specific aims of the study are to:

- (a) get in-depth understanding of how Chinese-born immigrant women view or perceive health or illness including universal beliefs about health or illness and unique beliefs about breast cancer within the context of the local Chinese community;
- (b) get in-depth understanding of how Chinese-born immigrant women view or perceive health promotion or illness prevention using breast cancer prevention as an example within the context of the local Chinese community;
- (c) get in-depth understanding of how Chinese-born immigrant women view or perceive U.S. health care practices including their views or perspectives of health care providers and health care setting within the context of the local Chinese community;

- (d) explore the factors related to Chinese-born immigrant women's screening mammography utilization with a focus on cultural specific factors within the context of the local Chinese community.

For the purpose of this study, Chinese-born immigrant women are defined as any Immigrant women from China who meet the following criteria: (a) were not born as U.S. citizens, but were born in China; (b) completed at least elementary education in China; (c) currently reside in the U.S.; and (d) can speak and read Chinese (either Mandarin or Cantonese).

Significance of the Study

Chinese immigration has had rapid growth in the last thirty years (U. S. Census of the Bureau, 1990, 2000, 2010). Based upon the 1990 U.S. census data, although Chinese, defined as people who have Chinese ancestry, were the first Asian ethnic group coming to the United States (Tseng et al., 2005), it was not until the 1980s that the Chinese population began to grow at an incredibly fast rate. Between 1980 and 1990, Chinese in the United States increased at a rate of 106% (U. S. Census of the Bureau, 1990). Between 1990 and 2000, the Chinese population kept increasing at a rate of 75% (U. S. Census of the Bureau, 1990, 2000). Between 2000 and 2010, the Chinese population increased 22%, more than twice as fast as the general population's 9.7% (U. S. Census of the Bureau, 2000, 2010).

One reason for the rapid growth of the Chinese population in the U.S. was the influx of Chinese immigrants. In 1981, the 1965 Amendment to the Immigration Naturalization Act issued a change to allow 40,000 more Chinese per year to legally immigrate into the United States and therefore attracted more Chinese immigrants (U.S. Commission on Civil Rights,

1992). Based upon U.S. census data, by 2009, 2 million of 3.5 million Chinese are foreign born (U.S. Census of the Bureau, 2009). This rapid growth indicates a critical need to address Chinese-born immigrant women for their health promotion.

However, limited information is available for Chinese-born immigrant women regarding their cultural beliefs and attitudes towards health and health care. There has been little exploration of the dynamics of cultural influences on health practices from an ethnographic perspective in the previous research. Moreover, studies have not explored how Chinese-born immigrant women understand health and health promotion within their cultural context or the context of an immigrant community. Initial research in this area has only applied survey, focus group, and one-time interview techniques. There are no ethnographies in the literature that inform Chinese-born immigrant women's cultural health beliefs from a holistic perspective. Therefore, this study should be conducted to allow insights in how health beliefs and behaviors occur in the context of a Chinese community.

Summary

Despite the rapid growth of Chinese-born immigrants in the United States, few studies have focused on Chinese-born immigrant women and the influence of culture regarding their health beliefs and health practices such as screening mammography utilization. The study provides cultural information regarding health beliefs among this growing immigrant population that are transiting from one culture to another. The findings of the study allow better understanding of these women's health beliefs from a holistic approach within their cultural context.

The writing of the dissertation for the study applied an innovative “publication option” format rather than a traditional dissertation format (Robinson & Dracup, 2008, p.174). Robinson and Dracup (2008) described the advantages of this innovative dissertation writing option. Because a publication option allows potentially published manuscripts to serve as dissertation chapters, it might save time for dissertation writing and avoid duplicates between chapters (Robinson & Dracup, 2008). Considering my timeframe of the study and my intents for future publications, it is a better way for my dissertation writing. I developed three manuscripts for the dissertation purpose.

CHAPTER 2

REVIEW OF THE LITERATURE

To understand the influence of culture on health care practices among Chinese-born immigrant women, it is critical to understand their cultural beliefs, attitudes, and perspectives regarding health and U.S. health care as well as the factors that are correlated to their health care practices. Historically Chinese population has been aggregated under the conceptual umbrella of Asians (Lee-Lin & Menon, 2005). In addition, how Chinese-born immigrant women's health beliefs and health practices differ from other Asians have great implications on research and practice. Therefore, for the purpose of the study, the literature review mainly falls in two parts. Part I discusses Asian-born immigrant women's beliefs about health, health promotion, and health care (discussed in manuscript no. 1). Part II discusses the factors influencing Chinese-born immigrant women's health care practices with exploration of the similarities and differences to other Asian groups. Taking the practice of screening mammography as an example, Part II mainly overviews the factors related to screening mammography utilization among Chinese-born immigrant women. Because manuscript no. 1 has been published by the Journal of Obstetric, Gynecologic & Neonatal Nursing, I obtained a copyright permission letter from the journal to use manuscript no. 1 as part of my dissertation. The letter is attached as Appendix I.

**Manuscript No. 1: Cultural Beliefs and Attitudes Toward Health and Health Care
Among Asian-born Women in the United States**

The number of Asian-born women living in the United States is growing rapidly. Of the 16.7 million foreign-born women in the US in 2003, 4.5 million (27%) were from Asia, reflecting an annual increase of 4.9% from 1995 (U.S. Census Bureau, 1995, 2003). These Asian-born women need culturally competent health promotion and care. Despite this increasing need, little progress has been made in previous research during the past 50 years to clarify and synthesize cultural beliefs and health needs of this group (Dallo, Borrell, & Williams, 2008; Kramer, Ivey, & Ying, 1999). Asian-born women are still more likely to underutilize U.S. health care services (Dallo et al., 2008; Kramer et al., 1999). To reach the goal of eliminating health disparities in Healthy People 2010, health professionals have raised concerns about the barriers to Asian-born women's use of health care (U.S. Department of Health and Human Services, 2010).

Among the barriers that have been explored, cultural beliefs and attitudes have been identified as major themes (Tseng, Chang, & Nishizono, 2005). Asian-born women encounter economic barriers such as the high cost of health care; structural barriers such as poor access to health care services (Liang, Yuan, Mandelblatt, & Pasick, 2004; Moy, Park, Feibelman, Chiang, & Weissman, 2006); and population-specific barriers such as different cultural views towards health and health care practices (Gany, Shah, & Changrani, 2006; Wu, West, Chen, & Hergert, 2006). The culture in Asia is dramatically different from the culture in western countries and heavily influences Asian-born women's health belief system and their utilization of health care (Tseng et al., 2005). However, current understanding of Asian-

born women's cultural beliefs and how cultural beliefs, attitudes, and perspectives influence their use of health care services is limited (Tseng et al., 2005).

The purpose of this article is to review, critique, and synthesize the existing literature on Asian-born women's cultural beliefs and attitudes towards health and U.S. health care practice. Although Asian-born women are grouped under one category, they represent more than 43 different ethnic groups and speak more than 100 languages, and each group has a unique culture (U.S. Census Bureau, 2000); health beliefs stemming from the unique culture of one ethnic group cannot be generalized to other groups. Therefore, both the common health beliefs shared by Asian-born women and the unique health beliefs held by each Asian ethnic group are examined. Asian-born women are defined here as Asian immigrant women who were born in Asian countries and reside in the US.

Method

Search Strategy

Relevant articles were found using PubMed and the Cumulative Index to Nursing and Allied Health Literacy (CINAHL) databases. MESH terms (Asian Americans and Health/Food/Exercise/Delivery of Health Care) were used for searching PubMed; MH Exact Subject headings (Asians and Health/Food/Exercise/Health Care Delivery) were used for searching CINAHL. Searches were confined to English because this review was focused on women in the US. Articles selected were published between January 2000 and May 2009. The footnote chasing technique proposed by Bates (1989) was applied to review the reference lists of the retrieved articles to find articles missed in the search of the online databases.

Inclusion criteria were: (a) the article reported the results of a study to explore cultural beliefs, attitudes, or perspectives towards health or the U.S. health care practices; (b) the study sample included Asian-born women, Asian American women (women who have a Asian origin and reside in the U.S.), or Asian immigrant women (women who immigrate in the U.S. from an Asian country) because most studies did not differentiate between Asian-born women and Asian American women (women with Asian ancestry residing in the U.S.) or Asian immigrant women (women who leave an Asian country and settle in the U.S.); and (c) the articles reported each Asian ethnic group separately or the Asian group as a whole.

From the search, 989 articles were found, and 21 of them met the inclusion criteria. Three additional reports were retrieved via footnote chasing. Therefore, a total of 24 reports were extracted for the review (Figure 1).

Data Extraction

For each retrieved study, the data on the authors, the publication year, the study sample, the sample size (only the number of Asian women in the US were retrieved; the number of males and other ethnic groups were excluded), the research design, and related key findings were extracted for further synthesis and comparison. The retrieved data are summarized and listed in Table 2-1.

Results

Study Characteristics

Asian-born women's cultural health beliefs were reported in 22 articles; their beliefs, attitudes, or views towards U.S. health care practice were reported in 6; both health beliefs and beliefs about U.S. health care practice were covered in 4 (Table 2-1). For the purpose of

the review, only the findings related to Asian-born women's cultural beliefs to health or U.S. health care practice are summarized.

Three of the studies summarized results under the broad category of Asian American women or foreign-born Asians (Kandula, Wen, Jacobs, & Lauderdale, 2006; Moy et al., 2006; Ngo-Metzger, Legedza, & Phillips, 2004). Although Kandula et al. (2006) reported demographics of the different Asian groups; they did not differentiate results for each Asian group. Seven different Asian groups (Asian-Indian, Chinese, Filipino, Hmong, Japanese, Korean, and Vietnamese) were targeted in the other 20 studies. The Vietnamese, Chinese, and Korean groups were addressed more often than the other four groups (Table 2-1). Cancer was the most frequently addressed research purpose, more common than health care practices, physical activity, diet, or other diseases.

Sixteen of the studies were qualitative, seven were quantitative, and one was both qualitative and quantitative (mixed methods). More qualitative studies were retrieved because those studies tend to disclose and explicate in-depth details about beliefs, attitudes, or views towards health and health care practices, while the reports of quantitative research address these variables without elaborating how the variables were measured. Focus groups and interviews were the primary qualitative research methods used in the retrieved studies; participant observation was applied in one study (Johnson, 2002).

Observational, cross-sectional survey methodology (e.g., face-to-face, mailed, online, or telephone survey) was the only research method applied in the studies using a quantitative approach. Convenience sampling was the only recruiting method for these eight studies. Only Kandula et al. (2006) and Ngo-Metzger et al. (2004) used U.S.-born non-Hispanic White women as the referent group in their study for comparison with Asian women. In most

studies, non-standardized, self-developed, or adapted questionnaires were used to measure Asian-born women's cultural beliefs. Only Wu et al. (2006) used a standardized instrument (the Mammography Screening Beliefs Questionnaire) developed specifically for Chinese American women and tested in their previous study for its reliability and validity. Cultural health belief was used as an independent variable in three studies and as a dependent variable in four studies; one study was only descriptive (Im & Choe, 2004).

Beliefs about Health and Illness

Asian-born women's beliefs, attitudes, and perspectives about health and illness, including their views on general health and illness and their views on specific diseases, were reported in 17 studies (Table 2-1).

Only one study on the Hmong group reported the meanings that Hmong-born women gave to health (Pham, Harrison, & Kagawa-Singer, 2007). From the Hmong perspective, health meant being thin, and was reported as "the absence of health disorders and psychological and emotional stability, and harmony within the family" (Pham et al., 2007).

While the mainstream population typically holds the belief that bacteria or viruses are the primary cause of illness (Hirsch, 2004), Asian-born women might not value bacteria and viruses in illness etiology. Four studies described how Hmong- and Chinese-born women view illness (Helsel & Mochel, 2002; Johnson, 2002; Liang et al., 2004; Satia et al., 2000). Hmong-born women had a very different perspective of the causes of illness compared to other Asian groups. They believed that spirits played a critical role in illness development (Helsel & Mochel, 2002; Johnson, 2002). Soul loss was considered the primary reason for illness; spirits could catch the soul and cause illness (Helsel & Mochel, 2002; Johnson, 2002). Chinese-born women's views towards health and illness etiology were influenced

dramatically by traditional Chinese medical beliefs. They were the only ethnic group that valued the concept of imbalance of diet, exercise, and environment as the primary cause for illness (Liang et al., 2004; Satia et al., 2000). This concept of imbalance was derived from the traditional Chinese health explanation model that uses the imbalance between yin and yang to explain illness development (Tseng et al., 2005).

Fourteen studies reported Asian-born women's cultural beliefs to specific diseases (Table 2-1). Five Asian ethnic groups (Asian Indian, Chinese, Japanese, Korean, and Vietnamese) were covered and three diseases (cancer, hepatitis, and menopausal symptoms) were explored. Although they shared some common cultural beliefs about diseases, each Asian ethnic group had unique cultural beliefs (Table 2-2).

Improper diet and stress were identified as the primary themes related to the incidence of all three diseases across Asian ethnic groups (Chen et al., 2006; Choe et al., 2005; Im & Chee, 2005; Lee, Tripp-Reimer, Miller, Sadler, & Lee, 2007; Liang et al., 2004; Wong-Kim, Sun, & DeMattos, 2003). Chen et al. (2006) reported that Chinese-born women considered fried food, contaminated food, and stress as the primary reasons for the incidence of hepatitis. Choe et al. (2005) similarly reported that Korean-born women considered contaminated food and stress as possible causes for hepatitis and liver cancer. Both Chinese- and Korean-born women viewed improper diet and stress as possible causes for cancer (Lee et al., 2007; Liang et al., 2004; Wong-Kim et al., 2003). Korean-born women reported that sweetened, high-protein, or high-fat food contributed to the incidence of breast cancer and cervical cancer (Lee et al., 2007). Chinese-born women reported that hot food that can cause heat in the intestine, contributing to the incidence of colorectal cancer (Choe et al., 2006).

Moreover, improper diet and stress were perceived to lead to menopausal symptoms among Chinese, Japanese, Korean, and Vietnamese women (Im & Chee, 2005).

Besides improper diet and stress, different Asian ethnic groups share other common beliefs or attitudes towards the three diseases. Women in all of the four subgroups considered aging and menopause as potentially contributing to menopause symptoms (Im & Chee, 2005). Both Chinese- and Korean-born women believed that alcohol might lead to hepatitis and liver cancer (Chen et al., 2006; Choe et al., 2005). Both Vietnamese-born and Chinese-born women perceived thinking about or discussing cancer as fearful (Ho et al., 2005; Liang et al., 2004). Korean-born and Vietnamese-born women believed that talking about cancer would bring them bad luck (Nguyen, Barg, Armstrong, Holmes, & Hornik, 2008; Suh, 2008). Asian-Indian, Korean, and Vietnamese groups, in contrast to non-Hispanic White or African American women (Haggstrom & Schapira, 2006), believed that they were not vulnerable to breast or cervical cancer (Lee et al., 2007; Nguyen, McPhee, Nguyen, Lam, & Mock, 2002; Wu et al., 2006), and this belief leads to their low rate of cancer screening (Kandula et al., 2006).

Chinese, Vietnamese, and Asian-Indian groups had unique beliefs towards specific diseases. Chinese-born women were the only ethnic group who considered a lack of rest as a possible cause for hepatitis (Chen et al., 2006). They were also the only group who believed that cancer was contagious (Wong-Kim et al., 2003) and viewed genes and environmental pollution as key factors related to cancer incidence (Liang et al., 2004; Wong-Kim et al., 2003). Vietnamese-born women were the only group who did not contribute hepatitis B virus to liver cancer (Ma et al., 2007). Asian-Indian-born women, compared to Filipino and Chinese women, more frequently mentioned that breast cancer was not a serious illness (Wu

et al., 2006), in contrast to non-Hispanic White and African American women's pessimistic perception of breast cancer survival (Haggstrom & Schapira, 2006).

Beliefs about Health Promotion and Illness Prevention

Asian-born women's cultural beliefs, attitudes, and perspectives towards health promotion and illness prevention were reported in 17 studies (Table 2-1). Six Asian ethnic groups (Chinese, Filipino, Hmong, Japanese, Korean, and Vietnamese) were studied (Table 2-2). Different Asian ethnic groups shared some beliefs about health promotion and illness prevention, but had unique within-group beliefs (Table 2-2).

A common theme across Chinese, Hmong, Korean, Filipino, Japanese, and Vietnamese groups was that physical activity and exercise contributed to health promotion and illness prevention (Belza et al., 2004; Choe et al., 2005; Choe et al., 2006; Im & Choe, 2004; Liang et al., 2004; Lin, Huang, Young, & Chen, 2007; Pham et al., 2007). Chinese, Filipino, Korean, and Vietnamese groups believed that physical activity and exercise could promote health through blood circulation, digestion, and emotional relaxation (Belza et al., 2004). Filipinos further emphasized exercise as an approach to prevent high blood pressure (Belza et al., 2004). They considered exercise a part of socialization that contributed to both mental health and general physical health (Belza et al., 2004). Chinese immigrant women believed that exercise could promote health through mood improvement and stress relief (Lin et al., 2007), and could help prevent cancer (Choe et al., 2006; Liang et al., 2004). Perceived beneficial effects of exercise were reflected also in Chinese American women's beliefs about exercise as the most important approach to cope with menopausal symptoms (Im & Chee, 2005).

To maintain health and prevent illness, all six Asian groups placed more importance on routine daily exercise than inconsistent hard exercise (Belza et al., 2004; Liang et al., 2004). Therefore, Asian groups preferred activities that should not be strenuous. Walking was identified as a good choice for exercise across groups (Belza et al., 2004; Liang et al., 2004). Tai ji was another appropriate exercise choice among Chinese and Filipinos, especially for elders (Belza et al., 2004; Liang et al., 2004). The Chinese women addressed the importance of outdoor exercise and activities for health promotion and illness prevention (Belza et al., 2004; Liang et al., 2004).

Proper diet was identified as another common theme across groups for health promotion and illness prevention (Choe et al., 2006; Im & Chee, 2005; Lee et al., 2007; Liang et al., 2004; Pham et al., 2007; Satia et al., 2000; Suh, 2008). Chinese- and Japanese-born women believed that diet could be used to control menopausal symptoms (Im & Chee, 2005). Chinese- and Korean-born women perceived that proper diet was helpful for breast, cervical, and colorectal cancer prevention (Choe et al., 2006; Lee et al., 2007; Liang et al., 2004). Diet was associated strongly with health and illness among Chinese-born and Hmong-born women (Pham et al., 2007; Satia et al., 2000; Suh, 2008), who felt that only appropriate diet can help maintain health and prevent illness (Pham et al., 2007; Satia et al., 2000; Suh, 2008).

For Chinese-born women, proper diet meant low-fat meals with more vegetables or fruits (Liang et al., 2004; Satia et al., 2000). It also meant a diet balanced between food of either a hot or a cold nature (Liang et al., 2004; Satia et al., 2000); both hot food and cold food should be selected to neutralize the diet and to maintain the body's hot-cold balance (Liang et al., 2004; Satia et al., 2000). They also addressed the importance of maintaining a

moderate intake of food (Liang et al., 2004; Satia et al., 2000). Both eating too much and eating too little have been identified as inappropriate and should be avoided for good health (Satia et al., 2000). Liang et al. (2004) further reported that eating more meals daily and eating meals at regular time intervals were important for health maintenance. Korean-born women thought that a proper diet should preclude too much intake of sweetened food, protein, and fat (Lee et al., 2007). They considered fat and chemicals in food as the most significant contributors to breast cancer and cervical cancer, and that these should be avoided for cancer prevention (Lee et al., 2007). For Hmong-born women, fresh fruits and vegetables were valued to maintain health (Pham et al., 2007).

Stress was believed to attribute to menopausal symptoms, hepatitis, and cancer among Chinese, Korean, Japanese, and Vietnamese groups (Chen et al., 2006; Im & Chee, 2005; Lee et al., 2007; Liang et al., 2004). Therefore, relieving stress and controlling overwork were considered as important coping strategies to maintain health (Chen et al., 2006; Im & Chee, 2005; Lee et al., 2007; Liang et al., 2004). Emotional stress was also valued (Chen et al., 2006; Im & Chee, 2005; Lee et al., 2007; Liang et al., 2004). All ethnic groups agreed that paying too much attention to health or worrying too much about health could cause illness or exacerbation of symptoms (Chen et al., 2006; Im & Chee, 2005; Lee et al., 2007; Liang et al., 2004).

No Asian ethnic group perceived regular check-ups, screenings, or vaccinations as primary methods for health promotion or illness prevention. This fact might explain why Asian-born women had relatively lower health care utilization rate and fewer health-seeking behaviors compared with non-Hispanic White (Kandula et al., 2006). Four Asian groups (Chinese, Filipinos, Korean, and Vietnamese) believed that there was no need to visit a

doctor or conduct cancer screenings if symptoms were absent (Kandula et al., 2006; Nguyen et al., 2008; Suh, 2008; Wu et al., 2006). Asian-Indian-born, Chinese-born, and Filipino-born women even perceived mammography as potentially harmful to their health, because they believed that it might expose them to radiation (Wu et al., 2006). Vietnamese-born women explained their reluctance to visit a doctor in vivid words in a Vietnamese proverb. They believed that to go to a doctor is to “go to a fortune-teller and the ghost will come out” (Nguyen et al., 2008, p.48).

Chinese-born women believed that maintaining a balance of exercise, diet, and environment was critical to health promotion and illness prevention (Liang et al., 2004; Satia et al., 2000). Because they have extended their concept of balance from the individual level to a broader environmental level (Liang et al., 2004), they believed that balance should be maintained not only within the body, but also between the body and the environment to acquire good health (Liang et al., 2004).

Hmong-born women’s faith in soul and spirits greatly contributed to their beliefs about illness prevention. To avoid getting ill, Hmong-born women valued all methods that could frighten spirits away and keep the soul in the body (Johnson, 2002). When getting ill, Hmong-born women intended to find the lost soul for recovery (Johnson, 2002). They also believed that burying the placenta after birth could prevent problems of the soul and therefore help prevent illness (Helsel & Mochel, 2002).

Korean-born women’s faith in God and beliefs about destiny were identified as primary themes influencing their use of breast and cervical cancer screening (Lee et al., 2007). They believed that God determined everything, including breast or cervical cancer, and that they could not do anything to prevent cancer because cancer was God’s punishment

(Lee et al., 2007). Based on this perspective, Korean-born women did not value breast cancer or cervical cancer screening for health promotion (Lee et al., 2007).

Beliefs about Health Care Practice

Asian-born women had contradictory views towards U.S. health care practice; some of them held a more positive view while others held a more negative view (Johnson, 2002; Liang et al., 2004; Moy et al., 2006; Ngo-Metzger et al., 2004; Ngo-Metzger et al., 2003; Nguyen et al., 2008). Their views about U.S. health care practice were influenced by their health care experiences (Johnson, 2002; Liang et al., 2004; Ngo-Metzger et al., 2004; Ngo-Metzger et al., 2003).

Although a large number of Asian-born women viewed U.S. health care providers as informative, gentle, and supportive (Johnson, 2002; Liang et al., 2004), others expressed significant negative views (Johnson, 2002; Liang et al., 2004; Ngo-Metzger et al., 2004; Ngo-Metzger et al., 2003). One negative view identified was the health care providers' improper discourteous behaviors. Asian-born women complained about health care providers' coldness, poor understanding of Asian cultural background, coldness, and reluctance to answer questions (Liang et al., 2004; Moy et al., 2006; Ngo-Metzger et al., 2004; Ngo-Metzger et al., 2003). They also complained about the health care providers' insensitivity to their embarrassment during physical examinations (Moy et al., 2006). Chinese-born and Vietnamese-born women were more likely to perceive that health care providers did not show respect to their cultural health beliefs (Ngo-Metzger et al., 2003). In more extreme cases, Hmong-born women reported that they had encountered health care providers who mocked their suffering and violated their own will for health decision-making (Johnson, 2002). The other negative view identified was related to the physicians' medical skills (Liang

et al., 2004). Chinese-born women perceived providers' insufficient medical experience and skills as potential major barriers to their use of health care services (Liang et al., 2004).

Asian-born women's views towards U. S. health care settings were also contradictory. Based upon the studies on Chinese-born women, although a clean environment in hospitals was valued, long waiting times and the inconvenience of the referral system was criticized (Liang et al., 2004; Wu et al., 2006). Although waiting time was reported negatively in other Asian ethnic groups (e.g., American-Indian and Filipino), Chinese-born women were more likely to complain about waiting time (Wu et al., 2006). Other studies on Asian-born women, including Asian-Indian, Chinese, and Vietnamese, reported that supporting services, such as professional language assistance, information assistance, and health care system navigation, in the clinic settings were insufficient (Ngo-Metzger et al., 2003; Nguyen et al., 2008).

Discussion

This review was focused on current literature summarizing Asian-born women's cultural beliefs and attitudes towards health, illness, and health care services. The majority of current studies on Asian-born women did not group different Asian ethnic groups under the broad category of Asians as in most previous studies (Lee-Lin & Menon, 2005), but reported each group separately. Therefore, between-group comparisons were possible.

Implications for Future Research

The review indicated that current research in this area is limited. Among the 43 Asian ethnic groups, only 7 groups were addressed. For each group, no more than 10 studies have been conducted, which is surprisingly low in consideration of Asian-born women's

increasing health needs (U.S. Census Bureau, 2003). Future research should be conducted for different Asian ethnic subgroups.

No study retrieved from the search was designed specifically to disclose the meaning of health or illness. Although one study on the Hmong's beliefs about diet and physical activity described the meanings that the Hmong gave to health, the authors focused on the meanings related to diet or physical activity without explication of the other aspects of health (Pham et al., 2007). The understanding of how Asian-born women in each ethnic group perceive general health or illness remains limited. Moreover, the exploration of cultural health beliefs about specific diseases has been focused on cancer; other diseases have been rarely examined. The lack of exploration of disease-specific beliefs leads to a limited understanding of how Asian-born women utilize disease-specific health care services. These limitations on current studies suggest a need for future research.

Although the U.S. Census Bureau has proposed and defined the concept of foreign-born Americans clearly as "those who are not U.S. citizens at birth" (U.S. Census Bureau, 2003), the concept was not well-accepted or well-applied in current studies on cultural health beliefs regarding Asian population. Asian-born women were not differentiated from Asian American or Asian immigrant women. It is presumed that Asian-born and U.S.-born Asian women might share some cultural beliefs about health and health care services (Tseng et al., 2005), but this is unproven. The lack of differentiation among the three groups of Asian-born, Asian American, and Asian immigrant women leads to a difficulty knowing if these belief differences really exist or not. There are potential dangers to apply the knowledge from one group to the other two groups. In future research, Asian-born women specifically need to be studied for their cultural health beliefs.

A major strength of this study was that the majority of the retrieved studies applied a qualitative approach to elicit more in-depth details about Asian-born women's cultural health beliefs. However, only one study utilized participant observation. Because participant observation provides the researchers with a tool to immerse themselves into the daily life of research participants (Patton, 2001), it allows the researchers to get familiar with the culture context of the research participants (Patton, 2001). Moreover, participant observation allows researchers to explore participants and their cultural health beliefs from a different perspective compared to focus groups or interviews. With participant observation, the researchers are able to understand Asian-born women's cultural beliefs about health and health care services based on what the participants do instead of on what the participants say and can elicit data that cannot be elicited from self-reported strategies (Patton, 2001). Future research should apply mixed methods, using participant observation as a complementary data collection method to get a more accurate picture of Asian-born women's cultural beliefs about health and health care.

The results also indicate that several issues should be addressed in terms of generalizability. All the retrieved quantitative studies used a non-experimental observational design with convenience sampling. Theoretically, these non-experimental research designs were inferior to experimental ones, because they generally lack two key components--intervention and randomization--and this might significantly endanger the validity of research findings (Polit & Beck, 2004). Future research can use an experimental design to establish enough evidence for relationships between cultural health beliefs and health outcomes. Moreover, to make the research findings more comparable, measures of cultural health beliefs need to be standardized to some extent.

Implications for Practice

Health care providers need to be aware that although Asian-born women might share some beliefs with other ethnic groups such as non-Hispanic White and African American women, they have unique cultural beliefs, attitudes, and perspectives towards health, illness, and health care services. Providers should be aware that each Asian ethnic group might have unique beliefs apart from other Asian groups. To improve quality of care and promote Asian-born women's health-seeking behaviors, providers should be supportive and show respect to Asian-born women's cultural health beliefs.

Moreover, health care providers need to apply their knowledge about Asian-born women's cultural health beliefs in their clinical practices. The findings from the review suggest that Asian-born women have some alternate beliefs about health, illness, and health care services. Health care providers should make efforts to address these beliefs when designing or developing cultural-sensitive health education and intervention programs for Asian-born women.

Furthermore, health care providers need to help Asian-born women to reframe beliefs and attitudes about health promotion and illness prevention to fit within the health promotion purpose. Although exercise, proper diet, and stress relief might be very helpful for general health promotion, more strategies are required, especially for illness prevention. The review suggests that some beliefs might endanger Asian-born women's health care utilization. Cultural-specific beliefs should be challenged and reframed to improve Asian-born women's health care utilization in terms of health promotion and illness prevention. For example, for Korean-born women, their faith in God and destiny can be reframed by persuading these

women that health-seeking behavior is the will of God to improve their use of health care services (Lee et al., 2007).

Conclusions

Asian-born women have unique cultural beliefs, attitudes, and perspectives towards health, illness, and health care practices. Although sharing some common beliefs across groups, each Asian ethnic group has unique health beliefs. Existing literature on Asian-born women and their cultural health beliefs is limited. More research should be conducted in this area.

Health care providers should make efforts to improve health care utilization among Asian-born women. Health care providers should show respect to Asian-born women's cultural health beliefs, and apply their knowledge about these beliefs in their clinical practices. Targeting health promotion and illness prevention, health care providers should also address and reframe Asian-born women's cultural beliefs about health, illness, and health care practices.

Table 2-1.

Retrieved Studies on Cultural Beliefs, Attitudes, Perspectives to Health and Health Care Practices among Asian-Born Women^a

Authors/year	Purpose	Participants	Design/methods	Beliefs to health and health care
Nguyen et al., 2008	To explore Vietnamese immigrants' attitude and experience regarding their communication with health care providers about cancer	Vietnamese <i>n</i> = 20	Grounded theory and interviews	No symptoms means no cancer; To discuss cancer screening with health care providers is to look for troubles and not lucky; Health care providers have full responsibility to inform, patients don't need to seek information; U.S. health care providers sometimes are impolite and reluctant to answer questions; Support services are inadequate in the hospital.
Suh et al., 2008	To explore how the socio-cultural context influence Korean immigrant women's breast cancer screening	Korean <i>n</i> = 20	Interviews	Cancer is God's punishment; Appropriate diet/peaceful mood helps with health maintenance; Talking about cancer is offensive and brings bad luck; No need for breast cancer screening if no symptoms.
Lee et al., 2007	To explore Korean American women's beliefs towards breast/cervical cancer and screening behavior	Korean <i>n</i> = 33	In-depth interviews	Faith in God or destiny helps to promote health and prevent breast/cervical cancer; Stress contributes to the incidence of breast and cervical cancer; High- protein, high-fat, or sweetened food contributes to the incidence of breast and cervical cancer; Koreans are not likely to develop breast/cervical cancer.
Lin et al., 2007	To explore and compare Chinese immigrants' beliefs about physical activity in Seattle and Taipei	Chinese <i>n</i> = 10 (the size of the focus group in Taipei is 14)	Focus groups	Similar to Taipei group, Seattle group views physical activity as a way for health promotion through mood improvement; Different from Taipei group, Seattle group views physical activity as a way for health promotion through stress relief.
Ma et al., 2007	To explore barriers to hepatitis B	Vietnamese <i>n</i> = 228	Survey	Hepatitis B virus infection is not perceived as the cause of

	screening and vaccination among Vietnamese immigrants			liver cancer or cancer death.
Pham et al., 2007	To explore Hmong adults' and youth's beliefs about diet and physical activity	Hmong <i>n</i> = 61(39 women and 22 girls)	Focus groups and interviews	Health is the absence of health disorders and psychological disorders, as well as the harmony in the family; Health means to be thin; Appropriate diet (fresh vegetables and fruits) helps to promote health; Physical activity helps to promote health. Potentially harmful food causes hepatitis; Alcohol causes hepatitis; Stress causes hepatitis; Inadequate rest causes hepatitis; Vaccination is not perceived as the primary strategy for hepatitis prevention; Chinese herbal medicine helps to prevent hepatitis; Stress relief helps to prevent hepatitis; Good rest helps to prevent hepatitis; Natural body defense mechanisms help to prevent hepatitis. Hot food causes colorectal cancer; Constipation causes colorectal cancer; Exercise and proper diet can help prevent colorectal cancer; Maintenance of energy helps prevent colorectal cancer. Foreign-born Asians were more likely than non-Hispanic White to perceive that no symptoms means no need for cancer screening.
Chen et al., 2006	To explore beliefs towards hepatitis, screening, and vaccination among less acculturated Chinese in the United States and Canada	Chinese <i>n</i> = 22 (American and Canadian participants)	Interviews	
Choe et al., 2006	To explore older Chinese American's views to colorectal cancer prevention	Chinese <i>n</i> = 30	Interviews	
Kandula et al., 2006	To explore the differences between Asians and non-Hispanic White regarding reasons for cancer screening	Chinese <i>n</i> = 740; Filipino <i>n</i> = 519; Korean <i>n</i> = 449; Vietnamese <i>n</i> = 434; Other Asians <i>n</i> = 480	Survey	
Moy et al., 2006	To explore barriers to repeat mammography among African American, Asian, and Hispanic	Asians <i>n</i> = 19	Focus groups	Health care providers are cold and are insensitive to their embarrassment during mammography process.

Wu et al., 2006	women To examine health beliefs and breast cancer screening among Filipino, Chinese, and Asian-Indian	Asian Indian <i>n</i> = 38; Chinese <i>n</i> = 40; Filipino <i>n</i> = 47	Survey	Common beliefs: Mammogram exposes women to radiation. Asian-Indian & Filipino: Mammogram is painful. Asian-Indian: Perceive breast cancer is not a serious illness; Perceive them as not vulnerable to develop breast cancer. Chinese: No need for mammogram if no symptoms.
Choe et al., 2005	To explore hepatitis B and liver cancer beliefs among Korean immigrants	Korean <i>n</i> = 48 (30 for interview, 18 for focus group)	Interviews and focus groups	Food and utensil contamination are perceived to cause hepatitis B transmission and liver cancer; Alcohol is perceived to cause liver cancer; Good eating habits (clean utensils and less alcohol) helps to prevent hepatitis B and liver cancer; Exercise helps to prevent hepatitis and liver cancer.
Ho et al., 2005	To explore factors related to breast/cervical cancer screening among Vietnamese women in Texas	Vietnamese <i>n</i> = 209	Mailed survey	Pap smear can early detect cervical cancer; Mammography can early detect breast cancer; Fears of thinking about or discussing breast/cervical cancer.
Im & Chee, 2005	To explore how Asian American women perceive menopausal symptoms, related causes, and coping strategies	Chinese (including Taiwanese) <i>n</i> = 33 Japanese <i>n</i> = 11 Korean <i>n</i> = 7 Vietnamese <i>n</i> = 6	Descriptive Internet survey	Common beliefs: Aging causes menopausal symptoms; Menopause causes menopausal symptoms; Stress causes menopausal symptoms. Chinese: Exercise is the most important coping strategy for menopausal symptoms. Japanese: Medication is the most important coping strategy for menopausal symptoms. Chinese & Japanese: Diet control helps to cope with menopausal symptoms.
Belza et al., 2004	To explore older adults' perspectives towards physical	Chinese (Cantonese) <i>n</i> = 6;	Focus groups	Common beliefs: Physical activity promotes health (emphasis on daily

	activity and to explore factors related to their participation in physical activity	Filipinos <i>n</i> = 7 Korean <i>n</i> = 6 Vietnamese <i>n</i> = 4		activity routine); Exercise helps with blood circulation, digestion, and emotional relaxation. Filipinos: Exercise helps prevent high blood pressure. Physical activity or exercise promotes health.
Im & Choe, 2004	To explore and compare Korean women and Korean immigrant women's beliefs about physical activity	Korean <i>n</i> = 16 (participants in Korea <i>n</i> = 28)	In-depth interviews	
Liang et al., 2004	To examine older Chinese American women's views towards health, cancer, and cancer screening	Chinese <i>n</i> = 54	Focus groups	Exercise helps to prevent cancer; Appropriate diet helps to prevent cancer (less fat, more vegetables or fruits; balance between hot-cold food); Stress avoidance helps to prevent cancer; Imbalance of diet, exercise, or environment cause illness; Cancer genes/stress causes cancer; It is fearful to think about cancer; Health care providers are polite; Health care providers are cold and not responsive to questions; The hospital is clean; The referral system in the U.S. is inconvenient.
Ngo-Metzger et al., 2004	To examine if the ethnicity influences Asian American's views/satisfaction to health care	Asians <i>n</i> = 299	Telephone survey	Doctors do not understand Asian values; Doctors do not listen to them and do not involve them adequately in decision making.
Ngo-Metzger et al., 2003	To explore linguistic and cultural barriers to care among Chinese and Vietnamese American patients	Chinese <i>n</i> = 66 (no data for the size of women) Vietnamese <i>n</i> = 56 (no data for the size of women)	Focus groups	Traditional medicine has few side effects; Western medicine is more effective to treat acute diseases or infection. Health care providers do not understand traditional medicine; Health care providers sometimes show no respect to Asian cultural beliefs; Support services are inadequate in the hospital.

Wong-Kim et al., 2003	To assess Chinese immigrants' cancer beliefs	Chinese <i>n</i> = 470	Telephone survey and focus groups	Cancer is contagious; Environmental pollution may cause cancer; Improper diet may cause cancer; Cancer genes cause cancer.
Helsel & Mochel, 2002	To explore the meanings that Hmong Americans give to placental burial and disposal	Hmong <i>n</i> = 48	Interviews	Home placental burial helps to prevent soul loss and illness.
Johnson, 2002	To explore how Hmong health beliefs influence their interaction with health care practices	Hmong <i>n</i> = 11	Participant observation, interviews, and focus groups	Soul loss causes illness; "A pool of blood" in the chest is the life force; Health care providers are sometimes discourteous and disrespectful to their beliefs/choices.
Nguyen et al., 2002	To explore factors related to pap smear utilization among Vietnamese American women	Vietnamese <i>n</i> = 1566	Telephone survey	Most participants perceived themselves not likely to develop cervical cancer.
Satia et al., 2000	To explore beliefs towards diet and illness among less-acculturated Chinese American women	Chinese <i>n</i> = 42 (30 for interviews; 12 for focus groups)	Interviews and focus groups	Diet is related to health and illness (balance between Yin-Yang foods, hot-cold foods); Appropriate diet helps to maintain health and prevent illness.

Notes. ^a Males and ethnic groups other than Asians are excluded from the sample.

Table 2-2.

Summary of Health Beliefs for Each Ethnic Group of Asian-Born Women^{a, b}

Health Beliefs	AI	CH	Fil	Hmo	Jap	Kor	Viet	NS
Beliefs about General Health and Illness								
Imbalance of diet and exercise causes illness		x						
Health is the absence of health disorders				x				
Soul loss causes illness				x				
Specific Diseases								
Cancer								
General Beliefs about Cancer								
Stress causes cancer		x				x		
Environmental pollution causes cancer		x						
Genes are related to cancer		x						
No symptom means no cancer							x	
Cancer is contagious		x						
Cancer is God's punishment						x		
Fear about discussion of cancer		x					x	
Talking about cancer brings bad luck							x	
Liver Cancer								
Contaminated food or stress causes liver cancer						x		
Alcohol causes liver cancer		x				x		
Breast Cancer								
Sweetened, high-protein, or fat food causes breast cancer						x		
Breast cancer is not a serious illness	x							
Belief of unlikelihood for breast cancer	x					x	x	
Cervical Cancer								

Sweetened/high-protein/fat food causes cervical cancer				X
Belief of unlikelihood for cervical cancer	X		X	X

Colorectal Cancer

Hot food causes colorectal cancer	X
Constipation causes colorectal cancer	X

Hepatitis

Contaminated food or stress causes hepatitis		X
Fried or contaminated food causes hepatitis	X	
Alcohol causes hepatitis	X	X
Lack of rest causes hepatitis	X	

Menopausal Symptoms

Improper diet or stress causes menopausal symptoms	X	X	X	X
Aging or menopause causes menopausal symptoms	X	X	X	X

Beliefs about Health Promotion and Illness Prevention

Health Promotion

Physical Activity or Exercise

Physical activity relieves stress and improves mood	X			
Physical activity or exercise promotes health	X	X	X	X
Exercise improves blood circulation and digestion	X	X	X	X
Exercise is a part of socialization and promotes health		X		
Exercise relaxes emotion	X	X	X	X

Proper Diet

Proper diet promotes health	X	X		X
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Stress Relief

Stress relief or peaceful mind helps maintain health	X	X	X	X
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Faith in God or Destiny

Faith in God or destiny helps promote health			X	
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Illness Prevention

General Beliefs

Proper diet helps with illness prevention	x	x		x
Balance of diet and exercise helps prevent illness	x			
Traditional medicine has few side effects	x			x
Western medicine helps with acute diseases and infection	x			x

Cancer

Cancer cannot be prevented				x
No need for cancer screening if no symptoms	x	x		x
Stress relief and avoidance helps to prevent cancer	x			
Exercise prevents cancer	x			

Liver Cancer

Good eating habits help prevent hepatitis liver cancer				x
--	--	--	--	---

Breast Cancer

Faith in God or destiny helps prevent breast cancer				x
Mammography can detect breast cancer early				x
Mammograms expose women to radiation	x	x	x	
Proper diet helps to prevent breast cancer	x			x

Cervical Cancer

Pap smear can early detect cervical cancer				x
Faith in God or destiny helps prevent cervical cancer				x
Proper diet helps prevent cervical cancer	x			x

Colorectal Cancer

Exercise prevents colorectal cancer	x			
Proper diet helps prevent colorectal cancer	x			x
Maintenance of energy helps prevent colorectal cancer	x			

Hepatitis

Chinese herbal medicine helps prevent hepatitis	x			
Stress relief and avoidance helps prevent hepatitis	x			

Good rest helps prevent hepatitis	x			
Natural body defense mechanisms help prevent hepatitis	x			
Good eating habits help prevent hepatitis B			x	
Vaccination is not the primary strategy to prevent hepatitis	x			
Menopausal Symptoms				
Exercise helps cope with menopausal symptoms	x			
Medication helps cope with menopausal symptoms			x	
Diet control helps cope with menopausal symptoms	x		x	
High Blood Pressure				
Exercise prevents high blood pressure		x		
Beliefs About Health Care Practice				
Health Care Providers				
Positive Views				
Providers are polite	x			
Negative Views				
Providers do not involve the patients adequately in decisions				x
Providers do not respect or understand Asian cultural beliefs	x		x	x
Providers do not understand traditional medicine	x		x	
Providers are insensitive to the patient's embarrassment				x
Providers are cold or impolite	x		x	x
Providers are sometimes disrespectful to the patient's will		x		
Providers are not responsive to questions	x		x	
Neutral Views				
Providers have full responsibility to inform			x	
Health Care Setting				

Positive Views

The hospital is clean	x	
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Negative Views

Supporting services are inadequate in the hospital	x	x
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The referral system is inconvenient	x	
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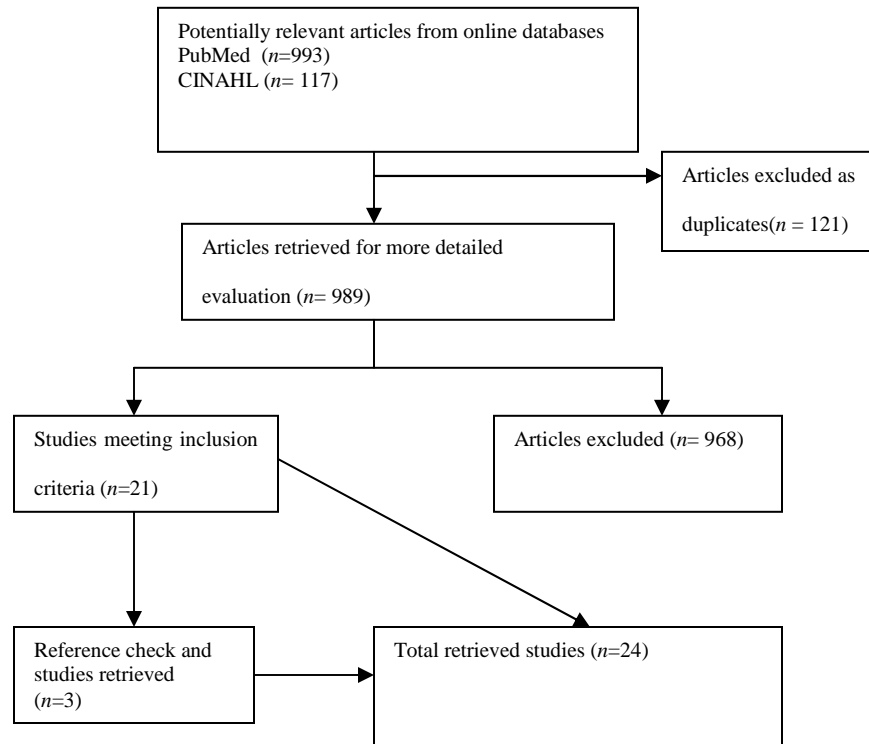
Notes. ^a AI = American Indian, CH = Chinese, Fil = Filipino, Hmo = Hmong, Jap = Japanese, Kor = Korean,

Viet = Vietnamese, NS = non-specified Asians.

^b The results in this table only summarize the studies reviewed and only apply to the studies reviewed.

Figure 1

Data searching and retrieval



Factors influencing Chinese-born immigrant Women's Screening Mammography Utilization

The majority of the U.S. health organizations recommend regular biennial mammography screening for women aged 50 or above across all ethnic groups (CDC, 2010; USPSTF, 2009). To understand the impact of culture on Chinese-born immigrant women's screening mammography practice, I outline the factors correlated with Chinese-born immigrant women's screening mammography utilization in the previous literature and compare these factors with those of the general population.

Based upon the understanding of the disparities in the U.S. women's screening mammography utilization, previous studies in existing literature attempted to reveal the facilitators or barriers to the U.S. women's use of screening mammography. Among the themes identified, Chinese-born immigrant women, similar to the other Asian ethnic groups, not only shared some common themes with the U.S. born minority groups, but also had their own cultural-specific themes.

Common Factors

The common themes identified across Asians, Latinos, and Africa Americans involved both individual factors and contextual factors. Individual factors were related to the women's economic status, educational level and literacy. Contextual factors were related to the health care settings.

Economic status. Individual factors correlated with economic status, such as income level; insurance status and insurance coverage largely contributed to women's access to the screening mammography service (Fiscella, Franks, Doescher, & Saver, 2002; Gany, Herrera, Avallone, & Changrani, 2006). In an observational study, 53% of 897 women from different

ethnic groups reported cost as a paramount barrier to the use of screening mammography (McAlearney, Reeves, Tatum, & Paskett, 2007). Among them, women with low income expressed more concerns about the cost of the screening mammography (Tu, Taplin, Barlow, & Boyko, 1999). In another study, 2002 Behavioral Risk Factor Surveillance System (BRFSS) data were analyzed and the results indicated that low household income was a significant barrier for women to participate in regular screening mammography practice (Coughlin, Leadbetter, Richards, & Sabatino, 2008). Lack of health insurance was also reported as a leading barrier in a study which investigated the use of screening mammography among women living in six counties in Illinois (Whitman, Kim, Davidson, Wolf, & Wang, 2002). In contrast, full health insurance coverage was reported to be a significant facilitator to screening mammography utilization (Coughlin et al., 2008).

Education level and literacy. Education level and literacy were the other two commonly reported individual factors significantly influencing women's use of mammography (Coughlin et al., 2008; Davis, Williams, Marin, Parker & Glass, 2002). Previous studies valued literacy more than education level. Literacy regarding general ability to read and write, which was closely associated with education level, was identified as an important indicator for women's screening mammography utilization (Coughlin et al., 2008). Women with higher education level and better literacy were more likely to participate in the practice of screening mammography (Coughlin et al., 2008). Health literacy was further reported to have impacts on women's ability to communicate with their health care providers during their clinical encounters, to read written cancer-screening instructions, and to understand health information, which in turn influenced their use of screening mammography (Davis et al., 2008).

Health care setting. The correlation of contextual factors with health care settings was also a primary indicator for the women's use of screening mammography (Coughlin et al., 2008; O'Malley, Forrest & Mandelblatt, 2002). The number of health centers and mammography screening centers in a local area significantly influenced women's screening mammography participation (Coughlin et al., 2008). The more the health centers and mammography centers were in a local area, the better the women participated in the practice of screening mammography (Coughlin et al., 2008). Once involved in health care encounters, physicians' recommendation was one of the strongest predictors for the screening mammography utilization (O'Malley et al, 2002).

Chinese Population Specific Factors

Compared to U.S-born minority women, Chinese-born immigrant women had culturally specific factors that were correlated with the screening mammography utilization. They shared some of these factors with the other Asian ethnic groups, but still had unique factors different from the other Asian ethnic groups.

Asian common: Language and acculturation. Compared to U.S. born minority groups, low English proficiency was a significant common barrier to screening mammography utilization across the majority of the Asian subgroups including Chinese, Japanese, Korean, Filipino, Asian Indian, and Vietnamese (Juon, Kim, Shankar, & Han, 2004; Sadler, Dhanjal, Shah, Anghel, & Harshburger, 2001; Sadler, Dong, Ko, Luu, & Nguyen, 2001; Sadler, Takahashi, Ko, & Nguyen, 2003; Sohn & Harada, 2005). In addition, acculturation measured by length of stay in the U.S., language proficiency, and understanding of western culture was also linked to the screening mammography utilization for Chinese and Korean-born women (Juon et al., 2004; Tang, Solomon, & McCracken,

2000). More acculturated women had better participation in the practice of screening mammography (Juon et al., 2004; Tang et al., 2000).

Asian common: Knowledge/awareness of screening mammography. Knowledge and awareness of screening mammography were common themes regarding screening mammography utilization among Asian-born women (Sadler, Dong, Ko, Luu & Nguyen, 2001; Tang et al., 2000; Sadler, Dhanjal et al., 2001; Yu, Hong, & Seetoo, 2003). In comparison to U.S. born minority women, Chinese-born immigrant women were less likely to be aware of screening mammography (Tang et al., 2000). Similar to Korean, Vietnamese, and Asian Indian subgroups, lack of knowledge for screening mammography was identified to impede Chinese-born immigrant women's use of the screening mammography (Sohn & Harada, 2005; Sadler, Dhanjal et al., 2001; Sadler, Dong et al., 2001; Yu et al., 2003).

Asian common: Cultural beliefs. Cultural beliefs were also common factors correlated with screening mammography utilization across different Asian groups (Sadler, Dong et al., 2001; Tang et al., 2000; Sadler, Dhanjal et al., 2001; Yu et al.; 2003). However, the understanding of how cultural beliefs influence these Asian women's screening mammography utilization was quite limited. For Chinese-born immigrant women, they valued routine lifestyle more than screening mammography for breast cancer prevention and believed that they did not need mammogram if no symptoms (Liang et al., 2004; Wu et al., 2006). They also believed that mammogram was painful and exposed them to radiation (Lee-Lin, Menon, Pett, Nail, Lee, & Mooney, 2007).

Chinese only: Waiting time. Different from other Asian ethnic groups, long waiting time was only identified by Chinese-born immigrant women as a major barrier to screening mammography utilization (Wu et al., 2006). Chinese-born immigrant women were less likely

to participate in the practice of screening mammography if they had to wait for a long time to get it (Wu et al., 2006).

Base upon the above review, identified factors influencing Chinese-born immigrant women's use of screening mammography have important implications for research inquiry. Better understanding of these factors indicates that there are issues and limitations in current studies on Chinese-born immigrant women's screening mammography utilization. It is a prominent problem that the reliability and validity issues of the measurements were under-reported in the reviewed quantitative studies. With regard to the qualitative research, most traditional reliability and validity testing methods are not applicable (Golafshani, 2003; Polit & Beck, 2004). It is not until recently that triangulation technique is recommended for qualitative studies to improve the qualitative reliability and validity (Patton, 2001; Golafshani, 2003). However, none of the reviewed qualitative studies regarding screening mammography utilization among Chinese-born immigrant women applied triangulation strategies. It is also worth noting that the exploratory data elicited from the reviewed qualitative studies were insufficient regarding Chinese cultural beliefs towards health, health promotion, and screening mammography, which indicates a need to explore these women's cultural health beliefs about health promotion and screening mammography (Liang et al., 2004).

Summary

Although sharing some common beliefs with other Asian ethnic groups, Chinese-born immigrant women have unique cultural beliefs, attitudes, and perspectives about health, illness, and health care practices. Existing literature on Chinese-born immigrant women and their cultural health beliefs is limited. Targeting health promotion and illness prevention,

more research needs to be conducted to address and reframe Chinese-born immigrant women's cultural beliefs about health, illness, and health care practices.

Major challenges still exist regarding current studies on the influence of culture on Chinese-born immigrant women's screening mammography utilization. More qualitative studies should be conducted to elicit rich data for Chinese-born immigrant women's specific cultural beliefs about health and the use of screening mammography. In addition, more studies are needed for Chinese-born immigrant women to understand culturally specific facilitators or barriers to their screening mammography utilization. The review of the literature reinforces the necessity to conduct this study to explore Chinese-born immigrant women's cultural beliefs about health, health promotion, and health care practices. The following chapter addresses the methodology applied in the study.

CHAPTER 3

THEORETICAL FRAMEWORK AND METHODOLOGY

For the purpose of the study, it is critical to understand how culture is conceptualized and operationalized because this study was designed to explore the cultural health beliefs among Chinese-born immigrant women.

Definition and Conceptualization of Culture

The definition of culture varies in disciplines. In health care, one definition is “an integrated pattern of human behavior that include the language, thoughts, communications, actions, customs, beliefs, values and institutions of racial, ethnic, religious or social groups” (National Center for Cultural Competence, n.d.). This concept indicates that culture can be conceptualized from a more traditional racial or ethnic approach focusing on how culture explains ethnic differences, or from a broader approach that applies the concept of culture to certain populations such as low income or underserved population (Murimi & Harpel, 2010). However, health care researchers have applied the concept of culture more traditionally to figure out how culture explains the ethnic differences in health care practice and how cultural competent practices are useful in closing the gap in health care utilization among ethnic minorities or immigrants (Coughlin & Uhler, 2000; Fiscella et al., 2002; Gany et al., 2006).

With regard to the construct of culture, the majority of studies on health care utilization conceptualized culture as beliefs, values, attitudes, and thoughts of a specific racial or ethnic

group (Johnson, 2002; Liang et al., 2004; Moy et al., 2006); some of them also considered behavior as part of the construct (Lee-Lin, Mastat et al. 2007; Lee-Lin, Menon et al. 2007); none of them viewed culture as customs, or language. Gany et al. (2006) exemplified this way of conceptualization of culture. Using thirteen focus groups, they attempted to explore barriers to Latino, Haitian, Caribbean, Chinese, and Korean immigrants' health services utilization on cancer screening and treatments (Gany et al., 2006). Culture, conceptualized as attitude and belief, was identified as a significant barrier to health care utilization. Linguistic barriers were not viewed as cultural barriers in their study (Gany et al., 2006).

It is worth noting that in current health care research for immigrants, culture is conceptualized in a more dynamic rather than a static way. The process of acculturation is seen as a facilitator for immigrants to their adaptation to the U.S. mainstream culture (Tang et al., 2000; Juon et al., 2004).

Operationalization of Culture

There are real gaps in our knowledge and understanding about what is culture and how to conceptualize and measure it. In terms of operationalization, culture needs to be treated as a variable; however, in most studies targeting health care practice, culture was not an independent variable; instead, most researchers chose variables that might inform cultural differences such as language and ethnicity as proxy for culture and used them to explain "cultural" diversity (Fiscella et al., 2002; Jacob, Karavolos, Rathouz, Ferris, & Powell, 2005). From this point of view, language was not part of the construct of culture, but rather a factor influencing acculturation and use of health care (Juon et al, 2004; Tang et al., 2000). Using proxy variables to represent the construct of culture in health research for multiethnic

populations or minority populations might be partly explained by a lack of standardized and language appropriate instruments developed on deep understanding of culture among different ethnic groups. This deep understanding can only be developed through qualitative research.

Only a few studies regarding health care practice of Asians tried to operationalize the concept of culture; however, the construct of culture was not measured consistently across studies. In some studies, culture was operationalized in terms of cultural affiliation regarding beliefs, attitudes, and behaviors using the Cultural Affiliation Scale (Yu & Wu, 2005). In other studies, it was measured as perceived cultural barriers with respect to modesty, family support, crisis/prevention orientation, and use of Eastern medicines (Lee-Lin, Menon et al., 2007; Lee-Lin, Pett et al., 2007). The disagreement across studies regarding how to measure the construct of culture makes it difficult to compare the findings from different studies. Moreover, the measures for culture in the literature are inadequate in their cultural specificity. This is illustrated by the use of translation version from English rather than the use of specifically developed measures based on qualitative exploration for the ethnic group studied (Yu & Wu, 2005).

Symbolic Interactionism

Working as the theoretical framework for the methodology of ethnography, symbolic interactionism emphasizes the impacts of the socio- cultural context on how people perceive or interpret the world in a meaningful way (West & Turner, 2010). The meaning of the world, such as an event, an object, or a behavior is constructed by the people embedded in the socio-cultural context (West & Turner, 2010). Therefore, the meaning can never be separated from

the socio-cultural context that people come from because the social cultural context influences people's construction and interpretation of the world (West & Turner, 2010). From this perspective, symbolic interactionism explains why people's interpretation of the world may differ from one group to another and legitimizes why ethnography is useful in terms of cultural research (West & Turner, 2010). Symbolic interactionism guides the conceptualization and use of culture in the study in several ways.

First, symbolic interactionism informs which group should be focused in the exploration of culture's impacts on health care practices. Symbolic interactionism indicates that people can be classified in many different groups, but are mostly connected to their intimate groups or the primary groups from which they construct their interpretation of the world (West & Turner, 2010). Therefore, symbolic interactionism legitimizes my conceptualization of Chinese-born immigrant women as a cultural group because these women are intended to be closely connected (Liang, et al., 2004).

Second, symbolic interactionism also informs what should be examined in the exploration of culture. Symbolic interactionism considers people's behaviors as the reactions based upon the meaning they give to events (West & Turner, 2010). From this point of view, regarding the study, the conceptualization of culture should examine Chinese-born immigrant women's shared beliefs, views, and attitudes about health and health care because these beliefs, views, and attitudes shape the meaning of health and health practices.

Third, symbolic interactionism encourages a dynamic rather than static approach to examine how culture influence Chinese-born immigrant women's health beliefs. Symbolic interactionism indicates that people's interpretation of health and health practices might change overtime as their socio-cultural context changes (West & Turner, 2010). Therefore,

symbolic interactionism suggests a dynamic rather than static view towards culture that can be used in this study.

Methodology

The focused ethnography was the key methodology for the study. It is selected based upon the following concerns. One major concern is that ethnography is the most appropriate methodology for a study on culture (Germain, 2001). Although the concept and practice of ethnography differs overtime, it is considered both a process and a product (Germain, 2001). Guided by symbolic interactionism, ethnography is a qualitative research method specifically developed to investigate the culture among a group of people (Germain, 2001; Patton, 2001; West & Turner, 2010). It is mainly applied by researchers from divergent disciplines to understand and interpret cultural phenomena among a specific group of people (Germain 2001). Because Chinese-born immigrant women share some common characteristics that help to distinguish them from the general population, they can be considered as a specific cultural group. Their cultural beliefs, attitudes, and perspectives about health and health care are therefore appropriate to be explored by an ethnographic approach.

Furthermore, ethnography is based upon field works in natural settings to describe and understand why a group of people do what they do (Germain, 2001). It allows for examination on both what research participants say and what they do. Because the meaning of health, health promotion, and health practices among Chinese-born immigrant women cannot be separated from the broader picture of their cultural context, an ethnographic approach makes it possible for me to examine Chinese-born immigrant women's health

practices such as screening mammography within their cultural context and therefore matches the research needs of the study.

Another major concern is about the focused approach. Traditionally, an ethnography study usually incorporates very time-consuming field works (Germain, 2001). However, when adopted by other disciplines, such as health sciences, ethnographic methods have been modified in terms of a more narrowly defined scope of research and a shorter timeframe (Morse & Richards, 2002; Muecke, 1994). This more practical adaptation of ethnography in the area of health sciences was labeled as focused ethnography (Morse & Richards, 2002; Muecke, 1994). Muecke (1994) noted that different from traditional ethnography, in which research questions were usually emerged from the data, studies applying focused ethnography usually had research questions set up before commencement of the study. These questions, however, were still subject to change during the data collection and analysis process (Morse & Richards, 2002). More focused research questions might explain why less time might be needed for the study (Muecke, 1994). For the purpose of my dissertation, which has a very limited timeframe as well as a focus on Chinese-born immigrant women's health beliefs and screening mammography utilization, a focused ethnographic approach is more appropriate than a traditional ethnographic approach.

Sampling and setting

I posted recruitment flyers in the local Chinese Christian Mission church where I gained access to the local Chinese community. To get a whole picture of Chinese-born immigrant women for their adaptation to screening mammography, western health care organizations were not selected to avoid over-representation of participants who have better adapted to the U.S. health care services (Polit & Beck, 2004).

I asked the church leader to advertise my study, and then waited for calls from the potential participants. When the calls came in, I answered the calls and explained the study to the potential participant using the phone script (attached as Appendix II) approved by the Institutional Review Board (IRB). If a woman was interested in the study, I would make an appointment for the initial interview. The initial interview could be conducted either at the woman's home or at the church's conference room at the woman's convenience. This recruitment process was repeated until enough participants were in the study.

To be eligible in the study, the participants needed to meet the following criteria: (a) were born in China, completed elementary education in China, and at the time of the study, was able to read or speak Chinese (either Mandarin or Cantonese) (b) aged 40 or above (c) were living in Central North Carolina which served as a community center. Although there are no established rules of how many participants should be recruited for a qualitative study, most researchers suggest that the data collected should reach saturation to some extent (Polit & Beck, 2004). The total number of the key informants recruited for this study is 15 to get the richness of the data.

A local Chinese community in North Carolina including Orange County, Durham County and Wake County was selected as the research setting because according to data from U.S. census 2000, these three counties have more than 10,000 Chinese in total, representing the highest Chinese population density in North Carolina. In addition, as a Chinese-born graduate student living in Chapel Hill for several years, I had access to the local Chinese community.

Data collection

I spent approximately 15 months from April 2009 to July 2010 for data collection.

One major data collection method of the study was the semi-structured interview with open-ended questions. The initial interview guide is attached in Appendix III. The other major data collection method was participant observation.

The semi-structured interview is an appropriate method for data collection in the study. Patton (2001) classified interviews into three broad categories including the informal interview, the semi-structured interview using a flexible interview guide, and the structured interview using standardized, open-ended questions. With a focused topic and research questions predetermined to explore Chinese-born immigrant women's cultural beliefs regarding health, health promotion and health care, the semi-structured interview is more applicable than the informal interview for the study (Muecke, 1994; Patton, 2001). It has more flexibility than the structured interview for richer data (Patton, 2001). The semi-structured interview in this study used a causal, conversational style to foster trust relationship between the researcher and the participants (Spradley, 1979).

During data collection, the interviews I conducted involved the initial interviews and the follow-up interviews. I finished all the interviews alone. All 15 participants completed the initial interviews. Six of them were asked to conduct the follow-up interviews for data clarity and richness. A total of 10 follow-up interviews were conducted for the six women. The follow-up interview questions varied from one participant to another.

I conducted all the interviews in Mandarin or Cantonese. The interviews were face to face and one on one. The time spent on each interview varied from forty- five minutes to one hour. All the interviews were recorded using a digital recorder. Due to the characteristics of the semi-structured interview, when doing an initial interview for one participant, I usually followed the guide and only did minor revisions if the participant mentioned something

“new,” which had not appeared in the existing data. In the interview, I only allowed the women to wander a little bit; if they wandered too much, I asked them to come back to the questions I want to know. For the purpose of the study, I mainly used three types of interview questions proposed by Spradley (1979) including grand tour questions such as “Can you think of an example or a situation where you or someone you know does things to have good health? Or poor health?” to get more information; mini tour questions such as “Tell me more about ‘live in a natural way’” to clarify the participants’ ideas; and experience questions such as “Could you describe a typical experience when you do a screening mammography” to get insight to the participants’ experience.

Eleven of the 15 women agreed to do the participant observation. Following the guide proposed by Spradley (1980), all the participant observation was done in a friendly, hanging out approach. Each woman was asked to finish two participant observations. Activities observed included grocery shopping, exercises, cooking, having dinner, and relaxation activities, such as going to a book store or going to a large shopping mall. Time spent with each of the eleven women ranged from one and a half hours to three hours with an average of about two hours.

I accompanied the participants to each activity. If an activity happened in a place outside of the participant’s home that required access permission, such as a fitness center instead of a public place such as a park or a neighborhood street, the participants need to tell me the name or the contact information of the agency at least twenty four hours before going to the activity. I contacted the agency to get permission. An observation data sheet was developed and used for the study (see Appendix IV). During observation, only those individuals who happen to interact with the participant or me would be verbally consented for the observation. When

these additional individuals left the observation site, no further observation would happen to them. Manuscript no. 2 discusses participant observation and how it was used in the study in more detail.

Data management and analysis

The data of the study included the digital files of all the interviews, the manuscripts of the interview transcription, the demographic data sheet, and the field notes. I transcribed the interviews in Chinese. Another bilingual nursing researcher who is familiar with the qualitative research methods checked the accuracy of my transcription. All the data were entered in QSR International's Nvivo 8 software for management and analysis. Data were labeled, filed and grouped in a way for easy retrieval. The manuscripts were not translated into English, but were directly analyzed in Chinese to avoid unnecessary and extended interpretation during the translation process.

Because compared to the quantitative data, the qualitative data are messier, more voluminous and overloading (Marshall and Rossman 2006), to avoid getting lost in a welter of details, the aim of the data analysis for the study was to identify the main themes, bring order and structure to the collected data, as well as to interpret the data through an inductive process (Marshall & Rossman, 2007). Miles and Huberman (1994) proposed a systematic approach for qualitative data analysis. Based upon their data analysis guideline, I developed the protocol for the data analysis process of the study. Because at the core of qualitative data analysis is data organization, deduction and interpretation (Miles and Huberman, 1994), the data analysis mainly had three phases.

The first phase of data analysis targeted getting a general sense of the data. During this phase, for each interview, I used a contact summary sheet adapted from Miles and

Huberman (1994) for an initial impression of the interview. For each observed activity, I used an observational data sheet adapted from Spradley (1980) to summarize the observation. Through the contact summary sheet and the observational data sheet, questions were asked to examine and outline the data elicited from a single contact or an observation. The results then indicated further steps for data collection and analysis (Miles & Huberman, 1994). The contact summary sheet used in the study is illustrated in Appendix V.

The second phase included the coding procedure and the organization of the codes. The data coded included all the transcriptions of the interviews and all the field notes of the participant observation. I coded the data in Chinese and then translated the codes into English. The process of coding itself was analysis, which required extensive analytic thinking (Miles & Huberman, 1994). It was the most critical and the most time-consuming part of the whole analysis procedure (Miles & Huberman, 1994). This phase had four major steps and I had gone back and forth through these four steps to achieve more understanding of the data.

First, I elicited the descriptive codes from the raw data. According to Miles and Huberman (1994), descriptive codes, just as the name implied, labeled the details in the data straight forward with little interpretation (Miles & Huberman, 1994). Usually codes such as name, gender, location, actions are considered descriptive and can serve as the first-order codes (Miles and Huberman 1994; Patton 2001). The development of descriptive codes in the study reflected a more inductive coding approach (Miles & Huberman, 1994). It was chosen over a more deductive coding approach because deductive coding usually involved the development of a provisional list of priori codes and therefore was inferior to a more inductive coding approach in terms of its flexibility to mold the data into the relevant codes

that labeled the data (Miles & Huberman, 1994). The descriptive codes emerging from the real data portrayed a more neutral picture of the data analyzed (Patton, 2001). To develop descriptive codes, I determined how big a chunk of data should be analyzed at a time and stayed with it throughout the data analysis procedure (Miles & Huberman, 1994).

Considering the level of details, the data for the study were reviewed sentence by sentence to get more insights.

Second, based upon better understanding of data and the descriptive codes developed, I tried to elicit pattern codes. With descriptive codes, the data were deducted dramatically and were more convenient for retrieval and further examination (Miles & Huberman, 1994). To get data more organized, it was critical to move from the first-order codes to the higher-order codes (Miles & Huberman, 1994; Patton, 2001). Pattern codes were more general, represented broader categories compared with descriptive codes, and usually served as the higher-level codes (Miles & Huberman, 1994; Patton, 2001). The development of the pattern codes was to figure out or discover “patterns, themes, and categories in one’s data” (Miles & Huberman, 1994, p. 69). There were two types of pattern codes. One was the topical code, which summarized the general topics discussed such as exercise or physical activity in the manuscripts with little interpretation (Miles & Huberman, 1994; Patton, 2001). The other was the interpretation code, which interpreted the data by asking questions such as “what is happening?” and tried to answer the question through the use of the code (Miles & Huberman, 1994; Patton, 2001). For example, I found that the participants usually referred to their friends, their family members, the health professionals, and the internet for health information. Then I tried to find an interpretation code to organize these descriptive codes. I

used the code “health information seeking” to organize these codes and interpreted all these codes as the participants’ health information resources.

Third, after descriptive codes and patterns codes were developed, eventually, a provisional list of a large number of codes has been established. It was necessary to sort the codes into some sort of order or into groups. Tree coding, a function in Nvivo 8 was used to achieve this objective. With tree codes, lower-order codes were nested into higher-order codes, and eventually, all the codes were grouped in a hierarchical order. Although Miles and Huberman (1994) did not propose a tree coding technique, they did recognize codes as astringent, and recommended grouping more disparate codes into more general and inclusive codes. Similarly, in their description of the procedure of grounded theory, Strauss and Corbin (1990) also introduced the concepts of axial category and core category. They suggested that certain emerging categories or patterns would eventually become more central focus (Strauss & Corbin, 1990). Without explicitly conveying the idea of tree coding, these researchers however all implied that codes should be categorized in a hierarchical order, in which more descriptive codes were ordered under more inferential or interpretive pattern codes. The rule for the ordering process was that the higher-order codes should be more inclusive and more general; lower-order codes, on the contrary should be more exclusive and more specific (Patton, 2001).

When developing the tree codes in the study, descriptive and pattern codes were not mutually exclusive. Some descriptive codes fitted in only one pattern code. For example, the descriptive code “internet” was only under the code “health information seeking.” Some descriptive codes fitted in more than one pattern code. For example, a descriptive code “fear

of breast cancer” was under the code “factors related to mammogram;” but also under the code “cancer beliefs.”

Fourth, I organized the codes using a within-case or cross-case display to make data more comparable for interpretation in one case or cross cases. Miles and Huberman (1994) introduced an idea of data display as an analytically process which helped to interpret the data. They further explicated how to build “the data display format,” which involved making matrices or networks (Miles & Huberman, 1994, p. 93). Since the qualitative data analysis targeted to make sense of the data, it was important to explore the relationships among the codes. A matrix or a network provided me a visual way to reorganize the codes systematically so that the relationships among the main themes were to some extent visually straight forward and therefore easier to be figured out (Miles & Huberman, 1994). To analyze the data from one participant, I applied the within-case matrices. The focus was to design the display format for a within-case matrix. Decisions should be made about what elements should be entered into the rows and columns (Miles & Huberman, 1994). To analyze the data from different participants, I applied the cross-case matrices (Miles & Huberman, 1994). In Nvivo 8, I used the *queries* function to develop the matrices and the *models* function to develop the conceptual maps. It is worth noting that the coding procedure was an ongoing iterative process (Miles & Huberman, 1994). To capture a more accurate picture of what the data were really about, I usually need to go back and forth among these four steps and to reconsider the data over and over. While my understanding of the data changed over time, the codes were also reframed and reordered.

The third phase of the data analysis procedure was to write memos and keep a journal of the data analysis process. Although I presented the memo and the journal writing as a phase

later in the data analysis procedure, I applied the memos and journals throughout the coding process (Miles & Huberman, 1994).

According to Glaser's (1978) definition, the objective of a memo is to write down the ideas about the codes and the coding process. A memo should be meaningful and work as a reflexive note about the data analysis procedure (Glaser 1978; Miles and Huberman 1994). For the study, the memos recorded the thoughts emerging from my analytic thinking about what the code was about; why a specific code was created; and how the code was affixed to a chunk of data (Glaser, 1978; Miles & Huberman, 1994). I also kept a journal to document the changes that I had made to the data analysis such as why I changed the labels or the order of a code. Moreover, as Miles and Huberman (1994) proposed, the memos and the journals allowed me to track back how I developed the ideas to interpret the data. For example, when I was thinking about the participants' understanding of breast cancer and screening mammography, I was wondering why the participants had these understanding, where they got these ideas, and whether or not these ideas were influenced by the culture. Then I noticed that health information and health education emerged as pattern codes when I tried to explain the above questions. When further looking at the data, it was obvious that friends (n=10) were the most commonly identified resource for the participants' health information seeking. I further found that although most of the participants admitted that they had American friends, but when seeking health information from friends, they mainly relied on their Chinese friends for help. Therefore, based upon the memos and the journal about the code of "friends," I began to think about if the participants understanding about breast cancer and screening mammography were mainly influenced by the Chinese community.

Rigor of the Study

The standards to measure the rigor of a qualitative study involve credibility, transferability, dependability, and confirmability (Thomas & Magilvy, 2011). Credibility refers to the degree to which a qualitative study presents an accurate description or interpretation of research findings from study participants' perspective (Thomas & Magilvy, 2011). Reflexivity and peer examination techniques ensure credibility (Thomas & Magilvy, 2011). In this study, I maintained memos, journals, and field notes throughout the data collection and analysis procedures for reflexivity. I also applied peer examination strategies. As my native language is Chinese and I am fluent in English, I was able to do all the translations. To ensure the credibility, the translations and interpretations of three randomly selected transcripts were verified by a PhD bilingual qualitative researcher whose native language is Chinese. I also referred to an experienced qualitative nursing researcher to consult and verify the coding process.

Transferability refers to the degree to which the findings of a qualitative study may apply to another group or another context (Thomas & Magilvy, 2011). To ensure the transferability, this study applied a strategy proposed by Thomas and Magilvy (2011) to densely describe the demographic characteristics of the study participants as well as the research setting where the study was conducted.

Dependability refers to how reliable a study is (Thomas & Magilvy, 2011). To ensure dependability, I applied strategies such as consulting peer for data analysis, and describing the research questions, methods, data collection and analysis procedure as detailed as possible for a potential audit trail (Thomas & Magilvy, 2011).

Confirmability refers to the degree to which research findings can be confirmed by others (Thomas & Magilvy, 2011). Confirmability is assured when all of credibility, transferability, and dependability were ensured (Thomas & Magilvy, 2011). In this study, my reflection on how my socio-cultural and educational background might influence the data collection and interpretation through the use of field notes, memos, and journals ensured the confirmability of the study (Thomas & Magilvy, 2011). In addition, the dense description of the research methods and procedures in this study, which allows a potential data audit, also ensured the confirmability of the study (Thomas & Magilvy, 2011).

Human Subjects

To protect the participants, the study had gone through the Institutional Review Board (IRB) procedure. To be eligible for the study, the participants should be capable and willing to discuss their health beliefs and their practice of screening mammography. All the participants were provided with an informed consent that outlined the research purpose, design, procedure, potential benefits and risks of the study before being enrolled in the study. Any questions and concerns were explained clearly before participants signed the consent forms.

Data security was taken into consideration before, during and after data collection and data analysis procedure. To protect the participants' identity, when enrolled in the study, each participant received a dummy number as an identifier. Participants' names, contact information or any other identification information were kept separately in a locked file cabinet and not directly connected to the data. Only researchers in this study had access to the consent forms, interview digital records, transcriptions, and field notes. The data cannot be disclosed to other people without the participant's consent. Hard copy records were

secured in a locked cabinet in the locked office when not in use. Electronic data that stored in a desktop computer or a laptop were all password-protected and power-on password protected as well. Participants are not identified in any report or publication about this study. Because this study involved a digital recording, the digital recorder was turned off anytime at the participants' request.

The personally identified data will no longer be retained when the research study was finished. The hard copy data including contact information will be shredded in a shredder. The electronic files including contact information will be deleted and emptied from the recycle bin. The digital audio files were also deleted and emptied from the recycle bin when the research study was finished unless otherwise consented by the research participants for the use in the future research studies. Because the digital audio files have data that the transcripts do not have, such as the speech emphasis, verbal tones, and emotions and can provide more information that might helps to better understand the research problem for this research or the future research (Patton, 2001), the research participants were asked to choose if they would approve me to use these files for the future research studies or only for this research study when enrolled in the study. The following chapter discusses how participant observation was used in this study, the challenges that I encountered and the possible solutions to the challenges.

CHAPTER 4

MANUSCRIPT NO. 2: REFLECTIONS AND INSIGHTS ABOUT PARTICIPANT OBSERVATION WITH CHINESE-BORN IMMIGRANT WOMEN

Derived from cultural anthropology, participant observation is a qualitative research methodology that is widely used by sociologists and anthropologists (Berg, 2008). The objective of participant observation is to offer researchers a method to investigate the perspectives of a group in a given community (Spradley, 1980). What makes the method of participant observation distinctive is that participant observation emphasizes the role of a researcher as a participant (Spradley, 1980). Researchers are not merely an objective observer, but should, at least to some degree, actively participate in the participants' daily activities to understand their daily dynamics when conducting relevant research (Spradley, 1980). The research setting for participant observation is the study group's own daily environment rather than a setting assigned by researchers (Spradley, 1980). Therefore, as an exploratory qualitative approach, participant observation is particularly appropriate for any community research for which it is crucial to investigate participants' (either a single person or a small group) daily dynamics from an insider's perspective (Jorgenson, 1989; Spradley, 1980).

In participant observation, the researcher's approach can involve both observing research participants and participating in their daily lives. Data elicited from participant

observation strategies are unique, offering an insider's perspective different from the data retrieved from mere interviews, focused groups, or quantitative research methods (Spradley, 1980). Therefore participant observation complements other approaches of data collection (Spradley, 1980). It can elicit data that are not able to be elicited from self-reported strategies (Spradley, 1980). For example, it can help researchers to gain an understanding about the socio-cultural context where the study group's daily activities occur (Spradley, 1980). It provides researchers unique opportunities to explore the study group's unanticipated behaviors or activities (Spradley, 1980). It further allows researchers to investigate these behaviors or activities to reexamine and reframe the research questions with a better and deeper understanding of the topic (Spradley, 1980).

Despite the growing tendency to adopt participant observation to health research to advance our understanding of a certain population's health related beliefs and behaviors (Silvestre, Gehl, Encandela, & Schelzel, 2000; Spitzer, 2003; McKnight, 2006), the use of participant observation in nursing research is most often limited to structured clinical settings, such as hospitals or nursing homes; and it is less frequently used in real, open community settings (Bland, 2002; McKnight, 2006). This may be due to the challenges and difficulties that nurse researchers might encounter in community health research. For example, researchers may not be familiar with the participants' neighborhoods where they live. Arranging a meeting outside clinical settings can be more time consuming. There can be more unexpected issues occurring in the real community setting than in the structured clinical settings; and they can be difficult to handle. Therefore, applying participant observation to community health research can be highly challenging and expensive in terms of the researchers' energy, time and financial resources. However, a unique insider's perspective

and data not able to be elicited by other research methods can overshadow the costs when conducting participant observation for community health research.

Therefore, this study extends the existing research by outlining challenges and dilemma the author encountered when conducting community health research with a group of Chinese-born immigrant women using a participant observation approach. Possible solutions are also discussed. The research was conducted in 2009-2010 and offers illustrations regarding how to apply participant observation in a community health study. This article includes

- (a) A description of a community health study that the author conducted, using participant observation;
- (b) An examination of the necessity to use participant observation in a community health study based upon the findings from the study;
- (c) A discussion of the challenges and difficulties that researchers might encounter regarding the use of participant observation in a community health study; and
- (d) An outline of recommendations to manage challenges or minimize difficulties conducting participant observation in a community health study.

Introduction to the Study

To understand the role of culture on health beliefs and health care practice among Chinese-born immigrant women, I conducted a nursing community health study in the research triangle area in North Carolina. I collected data from eleven Chinese-born immigrant women between April 2009 and July 2010. For this study, Chinese-born immigrant women are defined as any Chinese immigrant women who met the following

criteria: (a) born in China and currently reside in the United States; (b) completed at least elementary education in China; and (c) can speak and read Chinese.

Applying focused ethnography, the primary data collection methods involved semi-structured interview with open-ended questions and participant observation. I first conducted semi-structured interviews with each participant and follow-up interviews were arranged when needed. After that, I managed to spend at least two hours with them twice for participant observation.

These semi-structured interviews were conducted in Chinese using a flexible interview guide. Examples of the interview questions were “What is health? What does it mean to you to have good health (or be healthy)? (Shen me shi jian kang?) ” “What is poor health? (Shen me shi bu jian kang?)” “How does someone get good health? (Ni ren wei zen yang huo de jian kang?)” and “How does someone maintain good health? (Zen yang wei chi jian kang?).” These one-on-one interviews were conducted between forty-five minutes to one hour and were digitally recorded. Follow-up interviews were conducted with participants when ongoing analysis indicated the necessity for greater depth, clarification or theoretical sampling. Follow-up interview questions varied from one participant to another. The interviews were conducted at the participant’s home or at a conference room at a local Chinese Church in a low traffic area. I transcribed each interview. Following transcription, a bilingual Chinese research consultant checked the accuracy of all transcripts. Three transcriptions were randomly selected to be translated. The same bilingual Chinese research consultant checked the accuracy of the translations.

Participant observation was arranged with the participants at a convenient time for them when they engaged in some health-related activity. I spent time with my participants to

observe their everyday activities and paid special attention to conversations and behaviors related to health and health promotion. Following the guide proposed by Spradley (1980), the participant observation approach allows a casual, relaxed and friendly interaction between the participants and the researcher. I spent time with the participants when their regular daily activities went on without interruption. I took a notebook with me and took field notes through the entire participant observation. I documented what I observed when spending time with my participants, including their appearances, facial expression and their behaviors or gestures. I also documented the participants' interactions and verbal communications with myself and any other people on the observation sites. In addition, I wrote down my reflections about the observation and about myself.

For example, when I went grocery shopping with one participant, I noticed that she kept comparing the food I bought to what she bought. After the comparison, she tried to convince me why what she bought was good for her health. To this scenario, I reflected the reason underlying her behavior; it is likely that my role as a researcher with PhD training in health care at a prestigious university placed certain pressure on her grocery shopping. It is inevitable that participants may respond or modify their behaviors when interacting with the researcher during the participant observation (Spradley, 1980). However, the scenario may also provide a unique opportunity for me to understand her deeper motivations behind certain behaviors. As a researcher, I was aware that I needed to participate in the participant's daily activities, such as a grocery shopping, to share an insider's view without intervening in her decision making.

Reflection and reflexivity were important with respect to both adjusting my interaction with the participants and interpretation of the observation data. I constantly keep in mind that

I, as the researcher, am the tool for the data collection and analysis (Spradley, 1980). My background, a professional nurse from China studying nursing in a PhD program at a prestigious university in the United States, definitely had impacts on the way I observed my participants, interacted with them and interpret the observation data. Living in the same Chinese community as my participants, and sharing similar migration experiences, I also share some insider's perspectives with the participants. Therefore, there is a constant balance to maintain between my professional and educational role which carries a distant researcher's bias, and my rapport with my participants, which shares an insider's perspective.

During the participant observation, I focused on the participants. Only those individuals who interacted with the participant or me were observed. The observation data sheet (see Appendix IV) that I used in the study elaborates what should be observed and documented in the field notes. This observation data sheet was developed based upon Spradley's detailed instruction about what to observe for the purpose of participant observation. The field notes were not formal in format. They were mainly short sentences, phrases, or words that could remind me of what I observed in the field. After each observation, I expanded the related field notes as soon as possible before my memory faded. After expansion, each field note was around 1500 to 2000 words. Then I summarized the findings using the observation data sheet.

For data analysis, I entered the interview transcripts, observation data sheets, and field notes in QSR International's Nvivo 8 software. The interview data (interview transcripts and field notes for interviews) and observation data (field notes for observation and observation data sheets) were coded separately. Under the qualitative data analysis guideline of Miles and Huberman (1994), the coding process was ongoing and iterative, but mainly involved four

stages. First, I elicited descriptive codes, which labeled the details in the data straight forward with little interpretation, such as name, gender, location, actions and usually served as first-order codes (Miles & Huberman, 1994; Patton, 2001). Second, based upon the better understanding of data and the descriptive codes developed, I developed more general pattern codes. These pattern codes represented broader categories than descriptive codes, and usually served as higher-level codes (Miles & Huberman, 1994, Patton, 2001). The development of pattern codes was to figure out or discover “patterns, themes, and categories in one’s data” (Miles & Huberman, 1994, p. 69). Third, after descriptive codes and patterns codes were developed, eventually, a provisional list of a large number of codes was established. It was necessary to sort the codes into some sort of order or into groups. Third, I adopted a tree coding technique, a function in Nvivo 8 to achieve this objective. With tree codes, lower-order codes are nested into higher-order codes, and eventually, all the codes were grouped in a hierarchical order. The rule for the ordering process was that the higher-order codes should be more inclusive and general than lower-order codes, which are more exclusive and specific (Patton, 2001). When developing the tree codes, descriptive and pattern codes were not mutually exclusive. Some descriptive codes fit in only one pattern code. Some descriptive codes fit in more than one pattern code. Fourth, I organized the codes using a within-case or cross-case display proposed by Miles and Huberman (1994) to make data more comparable for interpretation in one case or cross cases. A matrix or a network provides a visual way to reorganize the codes systematically so that the relationships among the main themes were to some extent visually straight forward and therefore easier to interpret (Miles & Huberman, 1994). To analyze the data from one participant, I applied within-case matrices. To analyze the data from different participants, I applied cross-case matrices (Miles & Huberman, 1994).

I used the *queries* function to develop the matrices and the *models* function to develop the conceptual maps in Nvivo 8. Throughout the coding process, I wrote memos and kept journals to document my ideas about the codes and the changes that I had made to the data analysis such as why I changed the labels or the order of a code. The memos and the journal allowed me to track my thoughts over time (Miles & Huberman, 1994).

To protect the participants' privacy and confidentiality, the study had Institutional Review Board (IRB) approval from the University of North Carolina at Chapel Hill before my fieldwork. To be eligible for the study, the participants needed to be capable of and willing to discuss their health beliefs and their health behaviors. All the participants were provided with an informed consent form that outlined the research purpose, design, procedure, potential benefits and risks of the study before being enrolled in the study. Any questions and concerns were explained clearly before participants signed the consent forms. Data security was taken into consideration before, during and after the data collection and data analysis procedures. Only the researcher, the data and translation checker and my advisor in this study had access to the consent forms, interview digital records, transcriptions, and field notes. The data were not disclosed to other people without the participant's consent. The personally identified data were no longer retained when the research study was finished.

Eleven participants agreed to participate in participant observation. I conducted two observations with each participant. Each observation activity lasted approximately two hours. All interviews and conversations were conducted in Chinese. As a native Chinese speaker, I completed all the transcription and translations from Chinese to English. Validity of translations was confirmed by a Chinese research consultant. All English quotes in this article are my translations of the verbal data.

Why Participant Observation Is Needed?

Understand the Social Context

As discussed in the second paragraph of this article, through the approach of participant observation, nurse researchers can elicit data that they may not be able to obtain using other qualitative research approaches, such as the interactions between the participants or the interactions between the participants and the research setting (Spradley, 1980). Using participant observation, nurse researchers are able to gain a rich understanding of the social, cultural context where the participants live and behave, and therefore understand the participants' motivation and action from a more holistic perspective (Spradley, 1980). Without segregating the participants from their context, the data elicited closely depict their real life.

Take the study I conducted as an example, I gained a better understanding of the socio-cultural context of the participants through participant observation. As I observed, the majority of the participants were connected with the local Chinese community in one way or another. For example, most of their close friends were Chinese, and most of them went to the local Chinese grocery stores regularly. In addition, most of them read Chinese newsletters and spoke Chinese at home. The local Chinese community thus had great impacts on these women's daily lives, and their health beliefs were heavily shaped by the Chinese community such as whom to rely on for health information, where to go grocery shopping, how to cook and what to eat, and where to exercise. The participant observation provides me with a dynamic picture of what the socio-cultural context means to these Chinese-born immigrant women and how it influences their health beliefs as well as their behaviors.

Ho (2004) similarly documented the impact of China town on Chinese immigrant patients' enrollment in a therapy program in New York City in an ethnographic study. Ethnographic studies about other immigrant groups such as Latinos, Haitians, and Puerto Ricans also documented the influence of socio-cultural context on the immigrants' health beliefs (Bowen & Devine, 2011; Holmes, 2006; Menard, Kobetz, Diem, Lifleur, Blanco, & Barton, 2010). All these studies deem participant observation as a highly valued and unique research method to explore the socio-cultural context of study groups.

Understand the Discrepancy between Belief and Behavior

As Spradley (1980) proposed, self-reported data from participants of many research studies are not always consistent with how participants act. The investigation of why the inconsistency occurs can give researchers more insights into the research questions examined (Spradley, 1980). Participant observation therefore provides a useful tool in community health research to compare how people act with what they report and further helps to investigate these discrepancies. This will help researchers to reexamine and reframe their research questions from the participants' perspective, rather than to impose structured questions on participants from the researchers' perspective. However, previous health studies using an ethnographic approach rarely acknowledge the potential inconsistency between self-reported data and observation data; therefore these studies fail to take full advantage of participant observation in their studies.

The findings from the study I conducted can serve as a good example to illustrate how people say may be incongruent with what they do. Therefore, the study provides new insights to existing community health research by discussing the discrepancies between participants' beliefs and their actual behaviors as well as other challenges and dilemmas that researchers

may encounter in their empirical studies. During my fieldwork exploring cultural health beliefs among Chinese immigrant women, food and exercise emerged as two major themes for health promotion. I thus demonstrate the discrepancies by comparing what these women said to what they actually did concerning food and exercise. Seven of the eleven (64%) participants demonstrated some behaviors that were inconsistent with what they said. I then further discuss why the inconsistency may have occurred.

Food Choices. Most participants identified food as a major theme to improve their health. They believed that eating “healthy” food can benefit them from getting sick. Some participants believed that only “natural” food can be “healthy.” Any food that has additives is considered as “unnatural” and “unhealthy.” The following excerpts from their interviews clearly demonstrate the importance of “natural” food. One woman said:

.....even if the product is labeled as “natural,” I do not consider it as natural. Natural food by definition is the food that I can cook. It’s real food, not something that has been labeled as natural product, but is actually processed. That’s why I never eat processed food or take those health supplements. The natural food I am referring to is those grown by themselves, not artificially synthesized.....I don’t buy semi-finished or finished food, since I don’t know what they are made of.....

Another woman had very similar comments about food and additives. She said:

.....natural food is better. I mean the food that I can see and touch and grow in the nature.....I worry about those semi-finished or finished food, since I don’t know what additives they (the makers) might put in the food.....(that’s why) I rarely go out for eating.....

However, during participant observation, these two women did not always act according to what they claimed about “natural food.” When going out with the first woman for grocery shopping, she bought prepared food such as cake which she told me was for her breakfast because she had to finish the breakfast quickly to catch the bus for work. When visiting the other woman at her home, I noticed that she had some opened and unopened

canned fruits and vegetables in her refrigerator. She explained that she did not always have time for grocery shopping.

Regarding food, the majority of participants also claimed that a balanced diet contributed to good health. The idea of balanced diet was similarly reported in previous studies for Chinese-born immigrant women (Liang, Yuan, Mandelblatt, & Pasick, 2004; Satia, Patterson, Taylor, Cheney, Shiu-Thornton, Chitnarong, et al., 2000), and was a unique health belief among Chinese-born immigrant women compared with other Asian groups (Zhao, Esposito, & Wang, 2010). One woman who had stayed in the United States over six years said:

.....balanced diet is important.....At our home, we usually eat some vegetables, fruits, rice, and flour. We also eat some meat and eggs each day.....

Another woman who had stayed in the United States for more than nineteen years said that:

.....for good health, we need to balance what we eat for the three meals per day. We should eat a lot of vegetables and fruits, but we also need to eat some meat or eggs. It is not healthy to eat only some particular food. Every kind of food is beneficial in some way to our health.....

Despite these words, these same two women, who I observed on separate occasions, upon entering a grocery store, picked up advertisement flyers, and went directly to the food on sale. The first thing they looked for was the price tag. The foods they selected were not based upon their idea of “natural food” or “balanced diet,” but influenced heavily by the price of the food. For example, they bought canned food, which they thought were unhealthy, only because the food was on sale.

Exercise. Most participants explained during the interviews that exercise is beneficial and should be done regularly to maintain good health. The idea of exercise for health

promotion is widely accepted in Chinese-born immigrant women (Liang et al., 2004; Lin, Huang, Young, & Chen, 2007). It is also widely accepted in other Asian immigrant groups such as Filipino, Korean, and Vietnamese (Zhao, Esposito, & Wang, 2010). One woman clearly described her exercise habits during the interviews. She said:

There is a standard in the United States. (That is) at least twenty minutes a day, with a moderate amount of exercises, even just walking is good to health.

Regarding herself, she said:

I usually walk the stairs every day for exercise.....More than one hundred stairs each day. Sometimes I also use the treadmill for exercise. I usually spend more than thirty to forty minutes on the treadmill.....I also love to do stretch exercise, if I choose to do so, I might spend one to two hours on it.

However, when going out with her for a speed walking at a public garden, I observed that after only ten minutes of walking, she was panting, sweating, and looked very tired to finish the walking. On the contrary, during the observation, I walked with her and did the same amount of exercise without feeling tired after ten minutes of walking. Considering the amount of exercises she described in the interview and the fact that I normally did not exercise, it is likely that if she had done regular exercise as she described, she would not find the speed walking so hard to finish. In conversation with her friend who also went with us for the walking, I learned that this was only the second time this participant went to the garden while the friend went walking there four to five times a week, although the participant told me she “often came to the garden for walking.”

Explain the Discrepancy. Based upon the above findings, it is clear that these Chinese immigrant women held some culture-relevant health beliefs regarding food and exercise, but in reality, they do not always behave as what they believe in. For example, the realistic restrictions such as the cost of the food, the time to prepare or cook food, and the time to go

grocery shopping, availability of and accessibility to ethnic food shops can all intertwine with their beliefs in “natural food” and “balanced diet” when they make their food choices. These realistic barriers were not unique among Chinese immigrants, but were similarly reported for Latino immigrants (Kilanowski, 2010). Actually, during my fieldwork, I also found that the women in the study preferred buying Chinese food for grocery shopping, but in practice they were not able to do so because there were too few Chinese grocery stores close to where they lived. Instead, on most occasions, they had to depend on American grocery stores.

It is also not unusual for people to exaggerate the amount of exercise or expected activity that they actually would do (Bleek, 1987). Research participants may also want to present a more positive image of themselves (Bleek, 1987). To obtain a realistic picture of the participants’ cultural beliefs and behaviors regarding health promotion, participant observation thus is a valuable approach for nursing community health research. Without participant observation, I would have depended on interview data alone, may have the impression that people did what they claim or what may be ideal in their beliefs, and would not have acquired such a deep understanding of the restraints people have to face in their daily life. In addition, participant observation allows me to generate further hypotheses to test and explicate additional factors to measure in future research.

Using participant observation in a nursing community research study also allows nursing researchers to develop familiarity with the research setting and the research participants (Spradley, 1980). When nurse researchers become more familiar with research participants and are more involved in the participants’ daily life, the participants are also more likely to disclose their real beliefs and perspectives, rather than the ideal or positively-tuned stories, to the researchers (Spradley, 1980). From my own experience in the study, I

noticed that when I got along well with the participants and was more relaxed, the participants were more forthcoming and tended to disclose more information. For example, one woman began to complain about her stress from her new job when we jogged together three months after our first meeting, which she had not mentioned in the interviews. Participant observation enabled me to build up familiarity and trustworthiness with the participants in the study, which opens the window to their real life.

Dilemmas and Participant Observation

Despite the advantages and necessity of using participant observation in nursing community health research, there are dilemmas and difficulties that nurse researchers have to face. They can impede nurse researchers from using participant observation and should be taken into full consideration when designing a nursing community health research project. In the following sections, we will focus on two types of dilemma emerging during this research process, ethical one and time and setting one.

Ethical Dilemma

To protect human subjects, any research project involving humans conducted in the United States should be monitored and reviewed under the Institutional Review Board (IRB) procedure (Food and Drug Administration [FDA] 2005). IRB procedure requires and regulates a planned research project to notify research participants as clear as possible what they will be asked to do if involved in the project (FDA, 2005). All the benefits and potential risks should also be notified to protect the rights of research participants (FDA, 2005). As a result, IRB procedures raise an ethical dilemma for nurse researchers who plan to use participant observation in nursing community health research.

Potential problems using participant observation can be both ethical and methodological. In the study described above, the IRB procedure required me to inform the participants in the consent form about the kinds of activities I was likely to observe. However, when conducting participant observation, it is difficult to predict all types of behaviors and actions that may occur in the unfamiliar community settings, and it is thus methodologically unrealistic to provide a fully informed consent form. Moreover, as the study is exploratory in nature, I aimed to investigate what kinds of activities were relevant to these Chinese immigrant women's health and health promotion. However, the IRB procedure had already set limits to what activities would be observed before conducting participant observation in the field in terms of informing participants with the specific activities that would be observed. Therefore, I was restricted to observe only certain activities without further investigating other activities that potentially influence Chinese-born immigrant women's health and health promotion. If I found an activity that was not on the consent form but deserved to be observed, I had to go back to the IRB to modify the activities I originally laid out.

Another dilemma is how much or how little researchers should impose themselves on the participant's life. As the researcher, I always kept myself open enough to the participants I observed and participated to certain degree in their daily lives as an insider; however, on the other hand, I tried my best not to interrupt their daily activities norms as an outsider (Spradley, 1980).

Finally, when doing participant observation, researchers may have to interact with people other than the study participants. Although this kind of interaction is usually informal, these people's identity and human rights should also be protected according to the IRB rules

(FDA, 2005). In my study, when observing the participants' activities such as grocery shopping or exercise, I sometimes inevitably had some interactions with other people, such as the participants' friends or family members. The problem then becomes whether I should disclose our study to these people and how many details I could disclose to them.

Considering the fact that the participants in our study were reluctant to let these people know what they were doing in the study, I had to face the dilemma to meet both sides' ethical requirements. Therefore, I needed to find the balance between sufficiently informing these people to protect their human rights and at the same time protecting the research participants' privacy. Another option is to request the IRB for a waiver of consent for these people.

Time and Setting Dilemma

In addition to the ethical dilemma, nurse researchers also face time and setting dilemmas. Unlike research conducted in a semi-controlled clinical setting, research in a community setting has unique challenges. Compared with a clinical setting which is restricted to a ward, a hospital or a clinic (Gilchrist et al., 2005; Laitinen, Kaunonen, & Astedt-Kurki, 2011), a community setting has a geographically larger and open space and needs different strategies to handle. Participant observation in a community setting usually requires the researcher to spend more time with the participants on their regular activities. It can be more time-consuming than collecting the same depth and amount of data in a structured clinical setting. This time and setting dilemma, however, may not be practical for the majority of applied nursing research studies, which usually have a limited timeframe (Gilchrist et al., 2005; Laitinen et al., 2011).

For my own study, I spent almost 15 months in data collection and participant observation, much longer than I had expected. Because participant observation required me

to go out with the study participants for observation in their local community settings, I had to arrange my time to match the participants' time schedules. Making these arrangements can be harder and more time-consuming than arranging a visit to a clinical setting such as a hospital unit or waiting room. In a clinical setting, nursing researchers usually wait in the clinic for the participants to come to them, while for community settings, nursing researchers have to approach the participants in various communities. I had to meet participants at their convenience wherever their local communities were for observations. In addition, activities in the community setting were less predictable and less controllable than a structured and well protected clinical setting where daily routines and geographic boundaries are more established. This time and setting dilemma makes participant observation more challenging than doing interviews alone.

Strategies for Nursing Research

Considering the benefits of participation observation for nursing community health research, I offer some solutions to the dilemmas, difficulties and unique challenges for this important data collection technique.

Solutions to Ethical Dilemmas

From my own experience, the IRB process in health field might be stricter compared to the IRB procedure in other disciplines. The description of how to implement participant observation in a study should be as detailed as possible and avoid any vagueness while maintaining flexibility to be open to unanticipated situations (FDA, 2005). Given the fact that the data collection process involving participant observation can be improvisational and context-driven (Spradley, 1980), nurse researchers should describe and anticipate the

potential benefits and risks that may arise from participant observation in the study proposal. Moreover, nurse researchers should also develop appropriate strategies to enable themselves to be flexible during observation without violating the participants' privacy or human rights.

Based upon my experience with IRB application, approval to use participant observation in a nursing community health research study is likely but there is no one solution formula to all research projects. Nurse researchers should develop their own strategies according to their research questions and research designs and consult with the IRB as their plan develops. In the IRB application, the following aspects should be highlighted if planning to use participant observation.

- (a) A clear statement of why participant observation should be used in a nursing community health study with a focus on the difficulty in eliciting data from other research approaches;
- (b) Anticipate as fully as possible the activities that might be observed and the settings in the community that the activities would occur;
- (c) Describe the strategies as clearly as possible how the researchers gain access to the settings where the observation happens;
- (d) Develop a detailed plan of what should be observed and documented during participant observation.

After balancing the benefits and risks, the IRB reviewers may require or waive nurse researchers from fully describing the participant observation process in the written consent for the participants. If a detailed description is required, nurse researchers should clearly explain what a participant may be asked to do if joining the study. For those people who interact with the participants or the researchers during the observation, a verbal consent may

be needed to meet the IRB requirements if a waiver is not likely. In this verbal consent, the purpose of the study should be stated without disclosure of too much information about the research participant. The one I used in my study is attached as an example (see Appendix VI). A plan to document the observation data should also be developed. Although the majority of the studies in previous literature did not elaborate on how they solved the ethical issues in their studies and met IRB requirements, some of them developed a plan for observation data collection such as a checklist to document the observed activities (Gilchrist et al., 2005). In my study, I developed an observation data sheet based upon the recommendations proposed by Spradley (1980).

Solutions to Time and Setting Dilemmas

To handle the time and setting dilemmas during participant observation in a community health research study, nurse researchers should develop appropriate outreach strategies to arrange their observation timeframe more reasonably. Furthermore, because a community setting is harder to handle for observation, nurse researchers should be clear about what data are needed to document before conducting the observation in the field. Having a detailed observation plan to focus on the data needed is a useful strategy to carry participant observation in a community setting.

Real life does not occur in a controlled environment. Unexpected things happen. If handled in an appropriate and strategic way, they can be a plus to participant observation. It is thus always helpful to keep an open mind and be well prepared for surprises in real life.

Conclusions

Nurse researchers encounter ethical, time and setting dilemmas when conducting participant observation in a community health research study. Despite these challenges, participant observation has irreplaceable advantages over other qualitative research methods to elicit unique contextually rich data that are not able to be fully elicited from self-reported strategies. I recommend that there are no uniform solutions; however nurse researchers should have a clear data collection plan when conducting participant observation. Potential benefits and risks should be evaluated to determine how participant observation can be applied in nursing community health research.

CHAPTER 5

RESULTS

This chapter has two sections. One section is manuscript no. 3, which discusses the study findings related to cultural health beliefs. The other section covers the factors influencing participants' use of screening mammography, participants' health information seeking, and observational findings.

Manuscript No. 3: Cultural Health Beliefs about Health Promotion and Breast Cancer Prevention among Chinese-Born Immigrant Women in the United States

Health beliefs are defined as “the personal convictions that influence health behaviors” (Anderson, Keith, & Novak, 2002, p. 784). These convictions involve how people view health, health promotion and health care practices (Becker, 1976; Green, 2002). Culture and cultural context influences health beliefs (Tseng, Chang, & Nishizono, 2005). Change in cultural context, for example, immigration to another country, can change a person's cultural experiences and to some extent, health beliefs.

As the cultural context changes, Chinese-born immigrant women, after immigrating to the United States, encounter cross-cultural challenges regarding their health care practices (Tseng et al., 2005). These challenges come from their different cultural beliefs, views, and attitudes about health and health care as well as the systematic and structural differences in

the health care system between China and the United States (Chua, Mok, Kwan, Yeo, & Zee, 2005). Considering that the Chinese population has increased rapidly in the U.S. in the last thirty years from 1.3 million in 1990 to 3.5 million in 2010 (U. S. Census of the Bureau, 1990; 2010), and that by 2009, 2 million of them are foreign born immigrants (U.S. Census of the Bureau, 2009), there is a critical need to understand Chinese-born immigrant women's convictions about health promotion and their cultural health beliefs.

Although a large number of health care professionals have acknowledged the influence of cultural health beliefs on Chinese-born immigrant women's utilization of health care services (Chua et al., 2005; Tseng et al., 2005), current understanding of these women's cultural health beliefs is limited and draws heavily on expert opinions or clinical anecdotes (Tseng et al., 2005). Little is known about how these women view or perceive health and health care practice in the United States. There has been little exploration of the dynamics of cultural influences on health care practices from an ethnographic perspective in previous research. Moreover, studies have not explored how Chinese-born immigrant women understand health and health promotion within their cultural context or the context of an immigrant community. Initial research in this area has only applied survey, focus group, and one-time interview techniques. There are no ethnographies in the literature that inform the influence of culture on Chinese-born immigrant women's health beliefs and health practices from a holistic perspective.

The purpose of this study was to apply a focused ethnographic approach to explore Chinese-born immigrant women's health beliefs within the context of the local Chinese community, and develop insight into how their cultural health beliefs influence their use of health care services. The study took the screening mammography as a practice example to

explore Chinese-born immigrant women's views towards health care services. There is a systematic cultural difference in breast cancer screening policies and practices between U.S. and China. In the United States, routine mammography screening has been recommended as the standard for breast cancer early detection for women aged 50 or above by most health care organizations (Centers for Disease Control and Prevention [CDC], 2010; U.S. Preventive Services Task Force [USPSTF], 2009). Moreover, women aged between 40 and 49 are encouraged to consult with their doctors for the need of screening mammography (CDC, 2010). However, in China, it is not a population-based screening program, and women in China rarely get routine mammography (Wong, Kuntz, Cowling, & Leung, 2007; Woo, Kim, & Leung, 2007). The difference in screening mammography practice between the U.S. and China makes it a unique practice to examine whether and what kind of cultural health beliefs influence Chinese-born immigrant women's use of screening mammography practice. Therefore, the specific aims of the study are to:

- (a) get in-depth understanding of how Chinese-born immigrant women view or perceive health or illness including universal beliefs about health or illness and unique beliefs about breast cancer within the context of the local Chinese community;
- (b) get in-depth understanding of how Chinese-born immigrant women view or perceive health promotion or illness prevention using breast cancer prevention as an example within the context of the local Chinese community; and
- (c) get in-depth understanding of how Chinese-born immigrant women view or perceive U.S. health care services including their views or perspectives of health care providers and health care settings within the context of the local Chinese community.

Chinese-born immigrant women, in this study, are defined as any Chinese immigrant women who meet the following criteria: (a) were not born as U.S. citizens, but were born in China; (b) completed at least elementary education in China; (c) currently settle in the U.S.; and (d) can speak and read Chinese (either Mandarin or Cantonese).

Theoretical Framework

I applied a symbolic interactionism perspective as the theoretical framework to guide this focused ethnographic study. Symbolic interactionism emphasizes the impacts of the socio- cultural context on how people perceive or interpret the world in a meaningful way (West & Turner, 2010). The meaning of the world, such as an event, an object, or a behavior is constructed by the people embedded in the social context (West & Turner, 2010). Therefore, the meaning can never be separated from the socio-cultural context that people come from because the social cultural context influences people's construction and interpretation of the world (West & Turner, 2010). From this perspective, symbolic interactionism explains why people's interpretation of something may differ from one group to another and legitimizes why ethnography is useful in terms of cultural research (West & Turner, 2010). A symbolic interactionism perspective therefore guides this study to explore Chinese-born immigrant women's cultural health beliefs from a holistic perspective with a deep understanding of their socio-cultural context.

Methods

Between April 2009 and July 2010, I collected data from 15 Chinese-born immigrant women using a focused ethnographic approach. These women were recruited from a local

Chinese church which serves as a community center for the Raleigh, Durham, and Chapel Hill area of North Carolina. To be eligible for the study, they needed to meet the following criteria: (a) born in China, completed elementary education in China, and at the time of the study, able to read or speak Chinese (Mandarin or Cantonese); (b) aged 40 or above; (c) living in Central North Carolina. Among the 15 women recruited, seven were active church members; three were occasional members and five were referrals. To protect these women's privacy and confidentiality, the institution Review Board (IRB) of the University of North Carolina at Chapel Hill approved this study for data security.

Data collection

This study used a semi-structured interview approach with open-ended questions and participant observation as the major data collection methods. The researcher chose semi-structured interviews to allow some consistency among data; to assure that the specific research questions were answered during data collection; and to allow the flexibility to capture any unanticipated new phenomenon (Patton, 2001). All interviews were conducted in Chinese and digitally audio-recorded. The encounters were casual and relaxed to foster trust between the participants and the researcher and to subsequently obtain richer data (Spradley, 1979, 1980). The length of the interviews ranged from forty-five minutes to one hour. Follow-up interviews were conducted when the ongoing analysis indicated need for more depth of the data. Participant observation involved time spent on observation of the participants' everyday activities especially those aspects related to health and health promotion. I took field notes throughout the interviews and during the participant observations.

Among the 20 women who responded to the recruitment, 15 of them agreed to participate in the study and five of them were 50 or older. The participants' demographic characteristics are described in Table 5-1. All the participants grew up in a middle class family in China. They came to the U.S. at different ages from 24 to 68 for different reasons such as studying, working, taking care of their children, family or grandchildren, or merely coming for U.S. permanent residence. While all the 15 participants were married, nine of them did not live with their spouses because their spouses either worked in another state in the U.S. or lived in China. I briefly summarized each participant's life history in Table 5-2. The separation restricted them from getting in-time help and support from spouses. In the recruitment, older women who were aged 50 and above were initially less willing to do participant observation than women under 50. They became more willing during the interview phase as a sense of trust developed. All the participants completed initial interviews. Six of them also completed follow-up interviews. Eleven of them agreed to participate in participant observation. The most frequently observed activities were behaviors regarding food choices and daily exercise.

Data management and analysis

I transcribed all the digital-recorded interview audiotapes and the field notes in Chinese. Data were then entered into Nvivo 8 for management, coding, categorization and ongoing analysis. The interview data (the interview transcriptions and the interview field notes) and the observation data (the observation data sheets and the observation field notes) were analyzed separately.

I employed the systematic qualitative data analysis approach proposed by Miles and Huberman (1994). The whole data analysis process was inductive and on-going. Before

coding, to get a sense of the data, I summarized each interview using a contact summary sheet (see Appendix V) adapted from the one proposed by Miles and Huberman (1994); and summarized each observation using an observation data sheet (see Appendix IV) adapted from the one proposed by Spradley (1980).

During the coding process, I did not introduce predetermined codes. Instead, I followed an inductive rather than deductive method. While reading through the transcripts, observation data sheets and field notes, I allowed the codes to develop through my interpretation directly from the data. At first, I developed descriptive codes, which labeled the data straight forward without interpretation (Miles & Huberman, 1994). Words repeatedly appear in the data or key words in the context can all become descriptive codes (Miles & Huberman, 1994). Then based upon the descriptive codes, I began to develop pattern codes including topical codes, which summarized general topics in the data with little interpretation, and interpretation codes which identify the themes or categories that interpreted the data in some way (Miles & Huberman, 1994). I then grouped the descriptive codes and the pattern codes in tree codes (a function in Nvivo 8 to group codes in a hierarchical order so that lower-order codes are nested in higher-order codes) as a basic form of data interpretation. Appendix VII illustrates how the tree coding technique works in the study. To make the data more comparable for interpretation, I organized the codes using within-case and cross-case displays using the *queries* function in Nvivo 8 for matrix and *models* function in Nvivo 8 for conceptual maps (Miles & Huberman, 1994).

Throughout the coding process, I wrote memos and kept journals to work as reflective notes to document changes in the data analysis. The data were analyzed in Chinese to maximize culturally specific interpretation. Analysis results were then translated to English.

Rigor of the Study

The standards to measure the rigor of a qualitative study involve credibility, transferability, dependability, and confirmability (Thomas & Magilvy, 2011). Credibility refers to the degree to which a qualitative study presents an accurate description or interpretation of the research findings from the study participants' perspective (Thomas & Magilvy, 2011). Reflexivity and peer examination techniques ensure credibility (Thomas & Magilvy, 2011). In this study, I maintained memos, journals, and field notes throughout the data collection and analysis procedures for reflexivity. I also applied peer examination strategies. As a native Chinese speaker who is also fluent in English, I did all translations. To ensure the credibility, the translations and interpretations of three randomly selected transcripts were verified by a bilingual qualitative researcher whose native language is Chinese. I also referred to an experienced qualitative nurse researcher to consult and verify the coding process.

Transferability refers to the degree to which the findings of a qualitative study may apply to another group or another context (Thomas & Magilvy, 2011). To ensure the transferability, this study applied the strategy proposed by Thomas and Magilvy (2011) to densely describe the demographic characteristics of the study participants and the research setting where the study was conducted.

Dependability refers to how reliable the study is (Thomas & Magilvy, 2011). To ensure dependability, I applied strategies such as consulting peers for data analysis, and describing the research questions, methods, data collection and analysis procedure as detailed as possible for a potential audit trail (Thomas & Magilvy, 2011).

Confirmability refers to the degree to which the research findings can be confirmed by others (Thomas & Magilvy, 2011). Confirmability was assured when all of credibility, transferability, and dependability were ensured (Thomas & Magilvy, 2011). In this study, my reflection on how my socio-cultural (Chinese-born) and educational background (PhD student in Nursing) may influence the data collection and interpretation through the use of field notes, memos, and journals ensured the confirmability (Thomas & Magilvy, 2011). My dense description of the research methods and procedures, which allows a potential data audit, also ensured the confirmability of the study (Thomas & Magilvy, 2011).

Findings

Cultural health belief was a major pattern code that helped to interpret Chinese-born immigrant women's use of health care services. For clarity, I organized the findings under three categories including cultural beliefs about health and illness, cultural beliefs about health promotion and illness prevention and cultural beliefs about health care practice, consistent with the categories proposed by Zhao, Esposito, and Wang (2010) in their review article for Asian-born immigrant women's cultural beliefs about health and health care.

Cultural beliefs about health and illness

Health with Two Dimensions. The participants mainly defined health in two dimensions: one is physical health; the other is mental health. To be healthy meant “no illness or seldom getting sick.” Chinese-born immigrant women valued mental health more than physical health and emphasized the interaction between physical health and mental health. This is consistent among the participants. They thought that compared to being physically healthy and merely staying away from illness, being happy was a

more important basis for health. They also proposed that mental health had great impact on physical health. Unhappiness may endanger physical health or lead to illness, and vice versa.

I think, to be healthy, means, for one thing, we need a good body and should keep the body running normally... there should not be any illness in the body; for another, we should keep our mind healthy...In other words, we have satisfaction or happiness in our hearts...Indeed, the mind is more important than the body. Our strength comes from the mind. The mind determines the quality of our everyday life. If the mind is unhappy, then we are more likely to get sick. Of course, the illness also spoils our mood. That's why we need to maintain both the mind and the body.

The six participants who were religious addressed spiritual health as part of mental health. They thought that God helps them to achieve spirit satisfaction and happiness, which is the source of their health. Therefore, for the purpose of health, spiritual health should not be separated from mental health, and should be valued the same as physical health.

Even if one is physically well, but is not spiritually well, I do not think one is healthy. In my mind, being in a healthy state means having both a healthy spirit and healthy body. Human beings are different from animals. No matter what race you are, human beings have the tendency to worship God. As I mentioned before, one may look all well physically, but is not happy. God helps to cure one's spirit and make one's spirit happy and healthy...So we have this spiritual need. If we are healthy in both spirit and body, then we are healthy.

Some participants (n=6) also extended the concept of health to healthy diet or healthy lifestyle and considered no or low stress as a part of the concept of health. One participant also perceived that "basic body condition" is a part of health. She thought that one is able to adapt to environmental changes, with a good "basic body condition," which is an indicator of one's healthy status. From her perspective, "basic body condition" is a naturally born body condition and cannot be acquired through effort.

Basic body condition refers to the state of one's body condition at birth. If the basic body is good, then one's body condition does not change much due to stimulation from the outside world. With a good foundation, one does not

easily get sick or have a fever due to sudden cold weather or drastically changing environment... (for example) I have a friend who swims a lot and looks healthy, but he suffers stomachache when the weather is cold. He can only drink heated water, but not cold water.

Illness with Three Dimensions. The participants defined illness through three dimensions including abnormal physical status, abnormal mental status, and the imbalance between “Yin” and “Yang.” The participants identified “something abnormal” as the core of illness. The participants interpreted these abnormal physical status as “having physical symptoms,” “having something not normal in the body,” or “not energetic.” They also interpreted abnormal mental status as “having something not normal in the mind that one cannot live a normal life.” One elder participant considered that the imbalance between “Yin” and “Yang” in one’s body was also a part of the concept of illness. She believed that everything in the world including human body has two opposite parts of “Yin” and “Yang.” One’s body was composed of both “Yin” and “Yang” substances. “Yin” and “Yang” substances had completely reversed attributes. Normally, “Yin” and “Yang” substances in one’s body remained a dynamic balance. When the balance was broken, it became illness, even though abnormal physical or mental symptoms may or may not appear.

Five Causes of Illness. The participants proposed five illness causes including congenital defects, unhealthy lifestyles, stress, unhappiness, and environmental changes. Although the participants addressed congenital defects as a source of illness that cannot be neglected, they put more emphasis on unhealthy lifestyles, stress, and unhappiness. They thought that unhealthy lifestyles such as smoking, heavy drinking, staying up late, eating sweetened or fatty food, and doing little exercise all contributed to the development of illness including physical and mental illness. Moreover, they considered unhappiness, especially long-term unhappiness as one main reason for illness. They also emphasized the impact of

stress in the causation of illness. The stress most frequently mentioned was work stress. This was not surprising considering the current U.S. economic recession and a declining job market. Work stress reflected their fear of losing their job and led to a self-imposed pressure to work harder to keep a job.

...You know working in the United States is usually very stressful. I have a friend who is working at a University, and he loses twenty pounds in just one month after changing to a new boss. This really makes him vulnerable to getting ill.

Some participants (n=3) addressed illness causation beyond the individual level and considered the environmental changes as a major cause for illness. From their perspective, air pollution, water pollution, or other environmental pollutions were all related to the illness development.

...My former boss in Beijing, who died of cancer, did not drink or smoke. I don't know what exactly caused her cancer, but the heavy environmental pollution in Beijing definitely affected her.

Beliefs about Breast Cancer. With regard to breast cancer, the majority of the participants (n=11) thought that it is “a very serious disease” and it is “a vicious tumor in breasts.” However, almost half of the participants (n=6) were not sure what caused breast cancer and who were prone to breast cancer.

Nine of the women proposed “hereditary factors” (n=5) and “unhappiness” (n=4) as the two main causes for breast cancer. They considered breast cancer as hereditary; therefore, women with a family history of breast cancer were more likely to get breast cancer. They also thought that mental situation such as unhappiness contributed to the outbreak of breast cancer. As a result, women who were sentimental were more likely to have breast cancer. The participants also suggested “obesity” (n=2), “fried food” (n=2) and “environmental

pollution” including air, earth, and water pollution (n=1) as other possible causes of breast cancer.

Cultural beliefs about health promotion and illness prevention

Socialization. The participants considered socialization, exercise, healthy food, good sleep, and happiness as the five main means to promote health and prevent illness. The majority of the participants (n=11) believed that socialization with their friends contributed to good health. They considered that people need socialization because one could not live without social contacts with other people. They also interpreted how socialization benefited good health. They thought that socialization helped to improve health and prevent illness through the construction of a social network and the acquisition of friendship.

One needs to be more open and make friends. Even though there are people hard to get along with around us, I believe that the number of these people is small. One has to get along with people with sincerity, not pretend to be someone who you are not. I think being open is to be kind to other people. Thus, you may live a happy, fulfilled life. Thus, it may improve your health.

Exercise. The participants (n=12) also believed that doing exercise was one way to improve health and prevent illness. They thought that one’s body regained vigor through exercise. Although most of them considered that one’s health benefited from exercise regardless of the type or kind of the exercise, they believed that one has to do exercise regularly for good health. They interpreted regular exercise as doing exercise consistently on a daily schedule or a weekly schedule. Older women preferred exercise which is more casual and relaxed such as walking, jogging, and yoga because these types of exercise meet both physical and mental need. Through these exercises, one could get a stronger body and a more relaxed mind. Older women also preferred outdoor exercise because they believed that fresh air is helpful for good health when doing exercise.

I usually jog or walk fast outdoors for exercise early in the morning or evening because outdoor exercise makes me more relaxed. In addition, when doing outdoor exercise in the morning, I can breathe fresher air which is good for the body and makes me more refreshed and energetic. In the evening, I usually walk after dinner for digestion purpose. You know we have an old Chinese proverb ‘After a meal, walk a hundred steps and you will live till ninety nine.’ I believe it without a shadow of doubt.

Healthy Food. The participants (n=8) proposed that “healthy” food was a main theme for health promotion and illness prevention. From their perspective, eating “healthy” food means eating more vegetables and fruits, avoidance of junk food, high calorie food or fattening food, keeping a balanced diet, and eating “natural” food. In their opinion, balanced diet meant that one should eat all kinds of food without a picky appetite, because each type of food has its unique benefits to one’s health. Their idea of “natural” food indicated that unprocessed food is better than processed food for health. They also proposed that one should eat at regular times every day and should not eat too much or too little at a time for the purpose of health. They believed that getting up late in the morning, skipping breakfast, and having a big lunch or dinner would hurt one’s stomach.

Good Sleep. The participants (n=10) considered good sleep as one way to promote health and prevent illness. They interpreted good sleep as sufficient sleeping time with good sleeping quality. They thought that people may experience different sleep quality. One may have a better quality of sleep and therefore need less sleeping time; another may have a worse quality and therefore need more sleeping time. A good sleep meant no matter what sleeping quality one has, one’s sleeping time is sufficient for one’s health. From their perspective, an indicator for good sleep was that when getting up in the morning, one felt vitalized and energetic.

Happiness and Stress Relief. About half of the participants (n=7) considered happiness and stress relief as a critical method for health promotion and illness prevention. They further proposed that stress and unhappiness influenced not only their health for themselves but also their family members' health. Therefore, they thought that one should attend activities such as watching TV, doing yard work or traveling that helped to relieve stress and promote happiness for the health of the whole family.

The six participants who were religious also proposed that God may help them to promote health and prevent illness. They believed that they may get strength, happiness, comfort, and health through reading the Bible or praying to God, which were the two main ways for them to talk with God and get God's help. They believed that the Bible indicated what they could do or could not do for the purpose of health. One woman explained:

The Bible can serve as a manual for our behaviors. It offers advices and basic rules. It tells us that even though we committed sin, it allows us to eat meat, though it warns us about the harm of eating meat to our health. It tells us to eat vegetables and fruits. Later on, these theories are proven rather than overthrown by modern medicine.

Beliefs about Breast Cancer Prevention. The majority of the participants (n=10) believed that there were few effective ways to prevent breast cancer. As noted above, they proposed methods including socialization, exercise, healthy food, good sleep, and happiness consistent with their general health promotion strategies. In addition, four participants proposed regular check- ups for early detection of breast cancer. Among these four participants, three of them suggested screening mammography for early detection of breast cancer.

I am not quite sure about what can prevent breast cancer. But I usually do regular check up every year. If I have something wrong, I think my physician will tell me. In the U.S., we are asked to do screening mammography for

breast cancer early detection, but I have not done yet. I think maybe I should go for one.

When asked about screening mammography, half of the participants (n=7) could describe screening mammography correctly as “an exam for early detection of breast lump.” Two participants further pointed out correctly that screening mammography was “an exam using radiation.”

Cultural beliefs about health care practice

From the participants’ perspective, health care practice in the U.S. is different from the one in China. Both of them have their advantages and disadvantages. The participants mainly compared health care settings and health care providers of the two countries.

The Chinese Tale. The main advantages that the participants identified about the health care in China were the timely health care services and more experienced physicians. They thought that it was more convenient to visit a doctor in China because there was no need for appointments. In addition, if a doctor advised them to have lab tests, they could get the tests and the test results immediately. They also believed that doctors in China had more experience in disease diagnosis because they usually had more patients. Therefore, doctors in China offered them more accurate diagnoses about their diseases and were more reliable. They could easily find a “good doctor” in China.

On the contrary, the participants identified the main disadvantages about the health care practice in China as less advanced equipment, long waiting time, and the noisy, crowded environment of the health care setting. They thought that the lab equipment in China were generally not as advanced as the equipment in the U.S., except in large hospitals and large cities, where there might not be a big difference between countries. They also described the

crowded queuing system in out-patient departments and complained that there was a long waiting time to see a doctor in China.

In China, when visiting a doctor, you cannot imagine how many people there are in the hospital. It is too crowded and noisy. They will give you a number and then you need to wait for a long time till they call your number to see the doctor. Even if you arrive at eight o'clock in the morning, there might already be hundreds of people with numbers before your number. That is one reason that I usually avoid visiting a doctor in China. The experience is too painful.

The U.S. Tale. Compared to China, the participants identified more advanced equipment, better environment, kindness of health care providers, and greater flexibility in choosing health care providers as the main advantages of the U.S. health care. They thought that in the U.S., clinics were usually cleaner and quieter. In addition, physicians were generally kinder, nicer, and more patient; while in China, physicians usually did not have much time for the encounter and may be cold to patients when the physicians were getting tired. Moreover, the participants liked having more choices when selecting their U.S. health care providers. In comparison, their choices were limited in China, confined to four or five hospitals due to health insurance rules. The participants also described how more advanced technologies in the U.S. helped with their health.

In the U.S., I can enjoy the advanced equipments. When I had my eye surgery last year, my doctor introduced the machine to me. It was very advanced, and my surgery was minimally invasive surgery. I am not quite sure if the hospitals in China have this advanced equipment...

On the contrary, the participants identified the appointment system, referral system, and the language barrier as the main disadvantages of the U.S. health care. They thought that it was too inconvenient to make appointments to visit a doctor in the U.S.; they also expressed their worries about the potential delay of illness diagnosis and treatment related to the appointment and referral systems.

...You have to meet their time schedule, not your own time schedule. When I first visited my gynecologist, maybe because she is comparatively well-known, and I am her new patient, I could only have my appointment after three months. If I really had something wrong, how could I wait for three months...The referral system is the same as the appointment system, and I do not like it.

The participants further pointed out that language difficulty was still a barrier for their health promotion and illness prevention. Some of the participants, especially older ones, avoided visiting a doctor if they were not really sick because of their limited ability to speak English. Others, although fluent in English, had difficulty with medical terms. They expressed the need and challenge to find Chinese interpreters.

Even if I think my English is fluent, I still have trouble when there are specialized terms during the communication. I think it is better if we have a Chinese interpreter service. I know there is Spanish interpreter service, but not Chinese. Is that because we do not have as many (Chinese) people as Spanish people here?

Discussion

A major strength of this study is its application of both in-depth interviews and participant observation to explore how Chinese-born immigrant women view health, health promotion, health care services using breast cancer screening as an example. Compared to the previous studies, the findings of this study provide new insights into the health beliefs and practices of Chinese-born immigrant women in the U.S. in their cultural context. The results suggest that accurate understanding of Chinese-born immigrant women's health beliefs cannot be separated from their socio-cultural background, which contributes to a better understanding of these women's use of breast cancer screening. The adoption of the concept of health beliefs can help health providers and researchers further understand what may contribute to women's use of breast cancer screening. This further helps them to reframe the design for relevant future research and intervention programs.

Implications for Future Research

This study only pertains to middle-aged Chinese-born immigrant women residing in Central North Carolina. They are not nationally representative and the results may not be generalized to the corresponding population in the United States without cautious examination. For example, the participants in this study may have different demographic characteristics and different dynamics in their daily life from those living in metropolitan areas, such as the China town in the New York City. The transferability of the study results to these areas may need careful examination. Moreover, this study had five participants older than 50, and the other 10 are between 40 and 50. Considering that the recommended age for regular screening mammography has been changed from an age of 40 and above to an age of 50 and above in the U.S. according to the newest 2010 guideline (CDC, 2010), the results based upon the participants in the study may not be accurate enough to represent the cultural health beliefs of those women older than 50. Therefore, although the findings have conceptual and theoretical relevance to understand Chinese-born immigrant women's health beliefs and behaviors in particular respect to their breast cancer screening practice; research is still needed in other geographic settings or age groups.

In addition, this study only focuses on what cultural health beliefs Chinese-born immigrant women have and how these beliefs may be relevant to their use of breast cancer screening. Future research should further investigate how these cultural health beliefs may affect other health practices other than breast cancer screening. To obtain an accurate and in-depth understanding of cultural influences on health beliefs and health practices, an ethnographic method is still a useful approach.

Furthermore, future research can investigate similarities or differences in the cultural health beliefs and corresponding health behaviors between first and higher order generations of Chinese-born immigrant women. Eventually, future research should develop culturally sensitive intervention programs to enhance the Chinese-born immigrant women's use of breast cancer screening and other preventive health care services.

Implications for Practice

Comparing the findings of this study to those of previous ones on health beliefs among other immigrant groups such as Latinos and other Asian groups, Chinese-born immigrant women not only have unique cultural health beliefs, but also share common beliefs with other immigrant groups (Marinous, Diaz, & Mark, 2008; Zhao, Esposito, & Wang, 2010). For example, proper diet such as low fat diet was considered as an effective method to improve health across Chinese, Japanese, Korean, Hmong, and Latino groups (Marinous, Diaz, & Mark, 2008; Zhao, Esposito, & Wang, 2010). However, while physical activities and exercises were believed to promote health among Chinese, Filipino, Hmong, Japanese, Korean, and Vietnamese groups, they were less valued among Latinos, especially among Latino women (Im, Lee, Hwang, Yoo, Chee, Stuifbergen, et al., 2010; Zhao, Esposito, & Wang, 2010). Health education programs on exercise should be designed differently for Chinese-born immigrant women from their counterpart Latinos. Therefore, health providers, researchers, and policy makers need to acknowledge the similarities and differences between different immigrant groups; and further promote culturally competent programs with regard to health promotion, health education, illness prevention, and health care services.

Some of the findings are congruent with the findings of previous studies. Similar to Japanese, Korean, and Vietnamese, language is still a barrier for Chinese-born women in a

suburban southeast area of the U.S. to use health care services (Juon et al., 2004; Sadler, Sadler et al., 2003; Sohn & Harada, 2005). The participants considered a Chinese interpreter service a necessity that is lacking during their experiences with the current U.S. health care system. They also mentioned a need for more Chinese-speaking providers. Based upon these findings, health providers and policy makers can help to provide a standard multi-language list, including medical terms, medical services, health care providers, health institutions and other relevant information. This list should be well circulated among local Chinese communities. Health providers and policy makers can also help to set up translator services that are medically fluent to help Chinese-born immigrant women better communicate with their doctors. If possible, health providers can also use Chinese when conducting health education. Even if the education seminars cannot be conducted in Chinese, the handouts or education materials should be written in Chinese.

In addition, similar to American Indian, Korean, and Vietnamese, the findings of the study indicate that Chinese-born immigrant women's understanding of breast cancer and screening mammography still need to be clarified and reframed (Zhao, Esposito, Wang, 2010). Although breast cancer was considered as a serious disease, only a few participants recognized the necessity to participate in regular screening mammography for breast cancer early detection. Only about half of the participants could correctly tell what screening mammography was. Health care providers still need to provide education for these women about breast cancer and screening mammography.

Moreover, consistent with the literature, Chinese-born immigrant women were more likely to complain about the U.S. appointment and referral systems (Zhao, Esposito, Wang, 2010). Health providers should find ways to improve the use of health care services, such as

screening mammography among Chinese-born immigrant women. They can inform them the availability of walk-in clinics and speed up health care services to relieve their worry about diagnosis or treatment delays.

Some of this study's findings are new insights, which have not been reported in previous literature. For example, previous studies did not acknowledge that Chinese-born immigrant women had a need for socialization to promote health and prevent illness. Health providers and policy makers should assess their social network, and take advantage of this social network to promote health behaviors, prevent illness and encourage use of health services. Providers also need to better understand that these women have their own community and unique cultural health beliefs. Therefore, intervention programs to improve the use of breast cancer screening need to be community based and culturally competent. Considering socialization, an intervention program within the Chinese community may be more effective compared to a program located in a clinic setting.

Although emotional stress were valued among Chinese, Korean, Japanese, and Vietnamese groups (Zhao, Esposito, Wang, 2010), Chinese-born immigrant women were the only group that were more likely to value mental health as much or more than physical health. As a result, they emphasized the importance of keeping happiness and relieving stress as major means to prevent the incidence of breast cancer. Moreover, when further explored, one reason that they valued socialization with friends and outdoor exercise to prevent illness such as breast cancer is that both strategies help them to relax and be happy. This should be acknowledged by health providers when conducting health care services. It is also worth noting that they did not consider health providers as a resource for their mental health. Health providers need to educate Chinese-born immigrant women that in addition to self-care,

mental health care is available from health care professionals such as advanced practice nurses and physicians.

Conclusions

For health promotion and illness prevention, there is a need to understand the cultural health beliefs among Chinese-born immigrant women. The findings of the study reinforce and support the previous research in that, although Chinese-born immigrant women share some beliefs with the other immigrant groups, they also have their unique cultural health beliefs. Findings add new insights in current understanding of Chinese-born immigrant women's cultural health beliefs. Socialization can be an important mechanism through which Chinese-born immigrant women are connected to and influenced by the community.

Health providers therefore need to be aware of Chinese-born immigrant women's cultural health beliefs to improve quality of care. Health providers or researchers also need to design community based, culturally competent intervention programs to improve Chinese-born immigrant women's use of health care services such as screening mammography. More in-depth cultural studies on health beliefs among Chinese-born immigrant women should be conducted in different age groups and different geographic areas in the United States to allow more transferability.

Table 5-1.

Demographic Characteristics of the participants (N=15)

Characteristics	N(%)
Age	
Mean	48.8
Range	40-68
Education	
Associate degree	4(27)
College	6(40)
Graduate degree	5(33)
Employment	
Employed	9(60)
Unemployed	6(40)
Self-reported family income	
< 50000/year	
>=50000/year	7(47)
Religion	8(53)
Christian	4(28)
Buddhist	1(6)
Polytheist	1(6)
No religion	9(60)
Health insurance	
Yes	10(67)
No	5(33)
Married status	
Married	6(40)

Married (live separated from spouse)	9(60)
Use of mammogram	
Yes	9(60)
No	6(40)

Table 5-2.

Brief summary of life history (N=15)

Participant	Brief Summary of Life History
1	The participant was born in a small town in China in early 1960s. She moved a lot during childhood because of her parents' job requirements and grew up in a Chinese middle class family. She has four brothers and sisters, and depended on her parents for living expenses before graduating from college. She went to college in 1975. After graduation in 1979, she got a job in a government-owned telecom company. Then she quickly married two years later. In 1985, she had her daughter and changed her job to a university administration position to have more time taking care of her family because her husband was also busy with work. Her daughter went to Peking University with the highest score in the national entrance exam, which was very exciting to her. However, her mother passed away in 2000, which she felt very sad. She came to the U.S. alone in 2008 to be a visiting scholar. The living and moving in the U.S. was challenging to her because she did not have much money and encountered a "bad" landlord for her first home in U.S.
2	The participant was born in the suburb area in Taiwan in 1950s. She stayed with her parents until going to Taipei for college. When she was in high school, she became Christian. She did not work in Taiwan. In 1983, she came to the U.S. to visit her sister and studied for her associate degree in English literature in U.S. She did not marry until 1983. Her husband is Chinese, but had U.S. citizenship when they married in 1983. She also got pregnant in 1983 and had her son. She had one sister and two brothers. Her sister and younger brother are also Christian. Her parents passed away in 2000, which she felt very sad. She lived with her husband. Their son lived in another U.S. state. She did not work, but volunteer in a local church.
3	The participant was born in the suburb area in China in 1960s. She grew up in the same place. She went to a medical university in 1985. After graduation, she worked as a doctor for six years. Then she went back to school for her master's degree in public health in 1996. After graduation, she worked as a teaching faculty in her home town university for two years. She then went to Peking for her PhD degree in bio-statistics. After graduation, she came to the U.S. for a postdoctoral position as a bio-statistician. She married during her master's study and had a daughter in 1996. She lived alone in the U.S. Her husband and daughter are in China.
4	The participant was born in 1960s in Taipei and grew up in Taipei. She became Christian in childhood because her parents are Christians. Right after she graduated from college, she came to the U.S. for her master's degree in library science in 1984. She had two brothers. She married in 1987, had her daughter in 1998, and had her son in 2004. She worked part time because the only full-time job would require her to move to another state.
5	The participant was born in 1960s in Taiwan and grew up in the suburb area in Taiwan. After graduating from college, she worked as a statistician for one year in Taiwan and then came to the U.S. for PhD degree in biostatistics. She became Christian after living in the U.S. for eight years. She married in 1994 and had two sons. The elder one is 12 and the younger one is five. She developed diabetes in 2008. Her dad passed away in 2009.
6	The participant was born in a small town in China in 1960s, and grew up in the same place. She married after she got her accounting associate degree in 1991. She became Buddhist in 1992. She worked in China for seven years and came to the U.S. in 1998 with F-2 visa when her husband hold student visa for his PhD degree. She went to English school for three years and then went to a community college in U.S. for associate degree in accounting. After graduation, she got a full-time accounting job. However, her husband could only find a full time job in another state, and she decided not to move with her husband and lives alone. She does not have children.

- 7 The participant was born in a large city in China in 1960s and grew up in the same place. She got her associate degree in Nursing in 1989. After graduation, she worked as a registered nurse in China for more than ten years. She married in 1992 and had a daughter in 1998. In 2003, she came to the U.S. to accompany her daughter for high school study. Her husband is still in China. She has three sisters and her parents are still alive. She has a part-time job in the U.S.
- 8 The participant was born in a large city in China in 1960s, and grew up in the same place. She lived with her parents until attending college in another city. After graduation, she went back to her home town and worked as a computer scientist for nine years. In 1999, she first came to the U.S. with her husband to accompany him for his PhD degree. She worked in U.S. for seven years at that time as a computer scientist. She became a polytheist in 2003. In 2006, she went back to China with her husband and worked in China for two years. She had her daughter in 2000 in U.S. In 2008, she came back to the U.S. with her daughter because her daughter had difficulty in China in her studies especially in Chinese. Her husband is still in China. She has a full-time job since 2008.
- 9 The participant was born in a large city in China in 1960s, and grew up in the same place. She went to college in the same city in 1983. After graduation, she got an administration position in a university in China. She married in 1989 and had a daughter in 1997. She came to the U.S. in 2008 to accompany her daughter to high school. She has a sister. Her sister is also in the U.S. Both she and her daughter live in her sister's house. She does not work in the U.S. Her husband is still in China.
- 10 The participant was born in a large city in China in 1960s and grew up in the same place. She went to college for Bachelor's degree in biology in the same city in 1987. After graduation, she had a research position in a government agency in China. She married in 1993 and came to the U.S. in 1993 to accompany her husband for his PhD degree. She stayed at home from 1993 to 1996. She had her daughter in 1995. Then she went to a university for her master's degree in statistics. After graduation in 1998, she has worked for a company as a statistician. Her husband also works as a statistician.
- 11 The participant was born in a large city in China in 1960s and grew up in the same city. She went to work after graduation from high school in 1983. After working for one year, she went back to school for her associate degree and at the same time kept her job for about three years. In 1994, she married, and came to the U.S. to accompany her husband for his master's degree. They stayed in the U.S. until 1997 and she accompanied her husband to Canada for his PhD degree after 1997. In 2001, they came back to the U.S. Because she was diagnosed to have discal hernia in 1993, she did not work either in Canada or in the U.S. She had one daughter and one son. Her daughter is 15 and her son is three. Her husband went back to China in 2009 and she stayed in the U.S. to take care her children.
- 12 The participant was born in a small town in China in 1940s. She moved with her parents to a medium-sized city when she was one year's old and then grew up in the city. After graduation from high school in 1962, she worked in a high school to teach Chinese. In 1966, when the Cultural Revolution began, as a government mandatory requirement, she went to mountain areas and had lived there for ten years. In 1976, she went back to her home town and worked in the same high school. She attended a part-time program for her bachelor's degree in 1982. In 1996, she retired, and first came to the U.S. to visit her daughter. Since 1996, she has come to the U.S. every year and spent at least half a year to visit her daughter.
- 13 The participant was born in a large city in China in 1950s, and grew up in the same city. After graduation from high school in 1971, she went to another city to work as a high school teacher and married three years later. In 1978, when the national university entrance exam re-opened after the Cultural Revolution, she went back to school for her bachelor's degree. After graduation, she went back to the same high school and had worked more than 20 years until she retired in 2005. She had a daughter and a son. Her daughter is 38 and lives in the U.S. and her son is 32 and lives in China. She came to the U.S. in 2010 because her daughter wanted her to take care of her granddaughter. She does not work, and does not live with her daughter, but she depends on her daughter for living

expenses.

- 14 The participant was born in the early 1950s in a large city in China, and grew up in the same city. She went to an elementary school in 1958 and went to a high school in 1964. She went to a community college for associate degree in 1967. After graduation, she had worked in the same city as an account for several years. Then she married in 1976 and had her daughter in 1977. In 1978, she went back to school for her bachelor's degree. She came back to the same job position after she got her bachelor's degree. She had worked for more than 20 years until she retired in 2008. Her mother passed away in 1980. She came with her husband to the U.S. in 2010 to take care of her pregnant daughter. She had a part-time job in the U.S.
- 15 The participant was born in the late 1940s in a medium-sized city, and grew up in the same city. She went to college in 1965. After graduation in 1969, she had worked for 14 years before she went back to school for her master's degree in mathematics. She married in 1973 and had her son in 1978. In 1998, she came with her husband to the U.S. because her son lives and works in the U.S. She has worked for several positions since 1998.
-

Other findings

In addition to the investigation of the cultural health beliefs, the study also explored the Chinese-born immigrant women's use of screening mammography and their health information seeking.

Factors related to screening mammography utilization

Nine of the 15 participants had done a screening mammography before; however, only three of them had regular screening. I group the major factors that related to the participants' use of screening mammography in five categories.

Economic factors. The most identified factor that related to the participants' use of screening mammography was health insurance. The majority of the participants (n=8) among the 10 who had health insurance were willing to participate in screening mammography if their health insurance plan covered the expense of the mammography. Otherwise, they choose not to do it or not to do it regularly because they thought they also needed money for other examinations. Some participants (n=3) were willing to pay out of pocket if it was an urgent need.

Whether or not I go to the screening mammography mainly depends on my health insurance plan. If the screening mammography is covered for a year, then I will go to do it; if not, I might pay by myself if my doctor really thinks there is a need. It is not that expensive. I think it is around one hundred dollars. Not very much. Sometimes I go to it when I go back to China. It is cheaper to do it in China.

Regular check-up. The participants identified the regular check-up (n=8) as one major factor that has great impact on their screening mammography utilization. They usually asked for a screening mammography when they did the regular check-up. Their doctors would then schedule time for them to do the screening mammography. Four of the participants believed

that the use of the screening mammography was “common sense” and that was why they asked for it when going to a regular check-up.

Health care provider. Six of the participants considered their doctors’ recommendation as a main facilitator for them to use the screening mammography service. They mainly depended on their doctors for the decision of whether or not they should have the exam. They did not ask for the exam by themselves. Some participants (n=3) also thought that a reminder call or letter from the mammography center or facility might encourage them to go for a screening mammography. But before they made the decision, they usually needed to consult their family doctors.

Usually my doctor reminds me to do the screening mammography. Sometimes, providers in the mammography center also remind me by sending me reminder letters. But I do not go for it until I consult my doctor.

Early detection and breast cancer incidence. The participants (n=3) believed that they should do the screening mammography for breast cancer early detection and treatment. They thought that if diagnosed earlier, one may get the treatment earlier and had a better chance to survive from breast cancer. The participants (n=3) also believed that they need to participate in the screening mammography because of the breast cancer’s high incidence.

I would rather to do the screening mammography because it is a commonly diagnosed cancer in the women. Well, when I am getting older, I really find that health is everything. We have the screening mammography service, why not do it?

Language. The participants (n=3) considered that poor English may become a barrier for them to use screening mammography. For those women who had more fluent English and generally no communication difficulties with their doctors, the language barrier was mainly the trouble for them to understand the specific medical terms or jargons if they were not familiar with the topic before the discussion.

Other factors. Other factors that might impede participants' use of screening mammography included fear of getting a diagnosis of breast cancer, lack of time or motivation to get the exam, possible radiation side effects, breast cancer family history, and pain from the exam.

Health information seeking and observation

The study investigated participants' health information seeking behaviors, and identified ways that the participants get health information before make health decisions. The participants mainly referred to the following resources for health information.

Friends and family members. The majority of the participants (n=10) considered friends as their most important resource for health information including general health information and the information about breast cancer and screening mammography. They valued friends more than health providers for their health information seeking.

...I don't know much about screening mammography. When one of my friends told me she had it and urged me to do it, I asked her what it is. She told me I should do it if I want to find breast cancer early, and she also told me where I can get it...My doctor? I don't think they have much time to explain (screening mammography) to me, but they did give me a brochure. When doing the mammogram, they also instruct me how to get it. That's it...If I need to know more information? I prefer to ask my friend.

However, although most of the participants had American friends, they mainly referred to their Chinese friends for health information. Among the elder participants, family members, especially sons and daughters, were considered an important resource for health information.

During the observation, I noticed that people who socialized with the participants and were in their social network were mainly Chinese. In exploring cultural health beliefs, questions about spiritual beliefs were incorporated into the interviews. Recruitment was done

at a Chinese Christian church, but eight of the women who went to the church regularly stated they did not believe in God. Their main reason for going to the church was to meet other Chinese people in the local area. Going to the church is one way for them to participate in Chinese community activities. Only one Christian participant also considered the Bible as her source for health information. One woman said:

No, I'm not a Christian even if I come to the church every week. To me, the church is the place to meet new friends and to socialize with other Chinese people. You know, we don't have chance knowing other Chinese if we don't come to the church.

Five women said that they went to the free English classes offered in the local area to meet other Chinese. Whether or not they would improve their English was not as important as their major purpose, which was to make Chinese friends in the class. One elder woman said:

We can come to class to meet each other. Our teacher, our students, so many Chinese here. You cannot find so many Chinese in other places. Yeah, learning English is important, but I'm too old to learn it...My purpose is to meet new Chinese friends rather than learn English. Otherwise, I feel so lonely (without knowing other people).

I also observed that most women in the study were members of different local Chinese email lists. One of the participants even established her own Chinese email list to make it easier for her to communicate with her friends.

Internet. Almost half of the participants (n=7) referred to the internet for health information. They thought it was a fast and convenient method to get health information online. They also believed that the information they retrieved from the internet might be more complete than the information their doctors gave them.

During the observation, I noticed that the participants mainly referred to Chinese websites for health information seeking. They only referred to the English websites

occasionally and the most commonly used English websites were mainly search engines such as “Google” or portals such as “Yahoo.”

Health professionals. The participants (n=5) considered health professionals as one major resource for health information. They thought that health professionals could offer them health information through health education. However, they did not value health professionals as much as they valued friends, family members, or internet for health information seeking. Rather than going to a doctor for the health information, they usually preferred to ask friends or search online because of its convenience.

Newspaper. Some of the participants (n=3) liked to read the newspaper for health information such as reports of harmful food and information about health services. They also shared the newspaper with their friends. During observations, I noticed that most participants mainly read the local Chinese newspaper. Only some of them had an English newspaper such as the Times and the local English newspaper. It would be important to publish health information to the Chinese community in Chinese newspapers.

Job and colleagues. The participants (n=3) considered their job training and their colleagues as a source for health information especially those who worked in or had access to a health care related setting such as a clinic, a university, or a research center. They would come into contact with health information as a part of their job needs or through chatting with their colleagues.

...I am bio-statistician and need to read a lot of paper related to the data. That is one way for me to get the health information...I also learned some health information when chatting with the colleagues.

...I am working at a University and usually attend some conferences or lectures. That's an easy way for me to get some latest health information. Very helpful I think.

Based upon the findings of the study on Chinese-born immigrant women, the following chapter discusses the implications of this study to future research and to practice.

CHAPTER 6

DISCUSSION AND CONCLUION

Taking the practice of screening mammography as an example, this study applied a focused ethnographic approach to explore Chinese-born immigrant women's health beliefs within the context of the local Chinese community. Through in-depth interviews with 15 Chinese-born immigrant women and participant observation with 11 of them, the findings of this study reinforce and support the previous literature on the conclusion that although Chinese-born immigrant women share some beliefs with other immigrant groups; they also have unique cultural health beliefs. Nurse researchers encounter ethical, time and setting challenges when conducting participant observation in a community setting. Despite these challenges, participant observation has irreplaceable advantages over other qualitative research methods to elicit unique data that are not able to be elicited from self-reported strategies. Compared to the previous studies, the findings of this study provide new insights into the health beliefs and practices among Chinese-born immigrant women in the United States. These insights have important implications for future research and health care practices.

In chapters one and two, I introduced the study and reviewed previous literature on health beliefs and the factors related to screening mammography utilization among Asian-

born women to better understand what should be explored in the study. In chapters three and four, I outlined the theoretical perspective and the methodology of the study. In chapter four (manuscript no. 2), I further elaborated on how participant observation was used in the study. In chapter five, I summarized the study findings. In this Chapter six, I discussed the implication of the study to health research and practice on Chinese-born immigrant women's breast cancer screening. I also summarized the study and made conclusions.

Discussion

As discussed in manuscript no. 3, the results of this study only pertain to a small population of Chinese-born immigrant women who live in central North Carolina. The results may not be generalized to other immigrant groups such as other Asian-born women and Latinos or to another geographic setting without cautious testing and examination. Furthermore, this study had five participants older than 50, and the other 10 are between 40 and 50. Considering that the recommended age for regular screening mammography has been changed from 40 and above to 50 and above in the U.S. according to the newest 2010 guideline (CDC, 2010), the results based upon the participants in the study might not be accurate enough to represent the cultural health beliefs of those women older than 50.

Implications for Future Research

Future research should be conducted in different age groups or in different geographic settings. To get an accurate understanding of cultural influences on health beliefs and screening mammography practice, future research can also apply an ethnographic approach. Furthermore, future research can investigate if there is any similarities or differences between first generation and second generation Chinese immigrant women regarding their beliefs

about health, health promotion, and screening mammography. As the study results of participant observation suggest that there is discrepancy between health beliefs and behaviors among Chinese-born immigrant women, future research can investigate the reasons and related issues of this incongruence. Ultimately, future research will develop culturally competent intervention programs to enhance the Chinese-born immigrant women's use of screening mammography and other preventive health care services.

Implications for Practice

Manuscript no. 3 indicated that considering Chinese-born immigrant women had unique cultural health beliefs, health providers should acknowledge and respect their beliefs and provide culturally competent health care to improve quality of care. In addition, the results of the study suggest several strategies that can be applied in practice to improve Chinese-born immigrant women's use of screening mammography. Some strategies were not reported in previous literature because the research on Chinese-born immigrant women and their beliefs about health, health promotion, and screening mammography practice is limited. One major strategy is to conduct Chinese language community education. Manuscript no. 3 discussed the cultural health beliefs among these Chinese-born immigrant women and their need for health professionals to provide health education. Moreover, the study findings indicated that Chinese-born immigrant women had their own community and may use family members and Chinese friends for health information, which supported a need for health providers to conduct health education in community settings. Furthermore, although Chinese-born immigrant women were willing to learn health information, language and other barriers may prevent them from getting the information they need. Therefore, culturally competent community education should be conducted to educate Chinese-born immigrant women about

breast cancer and screening mammography. This approach may help to reframe their health beliefs.

Considering that the women in the study used a variety of culturally specific communication formats, one of which was the internet, another strategy is to involve the internet for health education about breast cancer and screening mammography among Chinese-born immigrant women. The women in this study felt comfortable using the internet to access health information in Chinese. One reason may be that this group of Chinese-born immigrant women has a relatively higher education level compared to the other immigrant ethnic groups (U.S. Census Bureau, 2010). Another reason may be that the internet is more acceptable and widely used nowadays. Therefore, health providers may build a specific website, gather evidence-based information, and structure the information to help Chinese-born immigrant women increase their understanding about breast cancer, screening mammography and other women's health issues. Health providers may also encourage and help these women establish an online study group to update and share the latest news and information. Based upon the study results, one feasible way to set up this kind of study group is to support these women to set up or enroll in a Chinese email list for group activities.

In addition, health providers can set up a provider-based reminder system to increase Chinese-born immigrant women's participation in screening mammography. The study findings indicated that doctors' recommendations facilitated Chinese-born immigrant women's use of screening mammography. Because the women consulted their doctors before going for screening mammography, a reminder system using calls, emails, and letters disseminating from their doctors may be more effective than a reminder system from an X-

ray facility. Therefore, to build up a more effective reminding system, health providers in one local Chinese community might need to collaborate.

Furthermore, some strategies that have been reported in the literature should also be applied among Chinese-born immigrant women based upon the findings of the study. Health providers need to be aware that, similar to the general U.S. population, those Chinese-born immigrant women who do not have health insurance might be the most vulnerable group and are less likely to participate in regular screening mammography (Coughlin et al., 2008). Health providers can provide women with information for possible resources to cover the expense of screening mammography because the improvement of these women's use of screening mammography may help to substantially increase Chinese-born immigrant women's participation in screening mammography practice.

Health providers also need to be aware that, similar to the other immigrant groups such as other Asian ethnic groups and Latinos, language and literacy inefficiency continues to be a barrier to Chinese-born immigrant women's use of screening mammography (Jacobs et al., 2005; Juon et al., 2004; Sadler et al., 2003; Sohn & Harada, 2005). Health providers can set up Chinese translator services that are medically fluent to help them better communicate with their doctors or refer them to the existing Chinese translator services. If possible, health providers should use Chinese when conducting health education. Even if the education seminars cannot be conducted in Chinese, the handouts or education materials should be written in Chinese. The implementation of the study findings can help health providers to better serve Chinese-born immigrant women with culturally competent health practices and improved quality of care.

Conclusion

This study applied a focused ethnographic approach to understand how Chinese-born immigrant women view or perceive health, illness, breast cancer, health promotion, and screening mammography. The study results indicate that I have met the research purposes proposed for the study. The three manuscripts developed are publishable (Manuscript no. 1 has been published). The study findings have implications for current U.S. health practices. Because the study participants were recruited in central North Carolina, the findings may not be generalized to the Chinese-born immigrant women residing in a metropolitan area. In addition, the findings might not be generalized to other age groups in terms of their cultural health beliefs without careful examination.

The study suggests that the application of participant observation is needed for community health research to investigate the impact of culture on health beliefs and health behaviors. Participant observation complements self-reported data with new insights that cannot be elicited from using self-reported techniques alone. Health providers and researchers need to become familiar with Chinese-born immigrant women's cultural health beliefs and make efforts to reframe these women's health beliefs to improve their use of screening mammography. Future research can focus on the development of culturally competent intervention programs and further investigate the influences of culture health beliefs on other health practices rather than screening mammography. Community education programs and internet education programs may be the most effective solutions to improve Chinese-born immigrant women's screening mammography utilization.

Appendix I

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Appendix II

PHONE SCRIPT

Hello, this is the research study “The role of culture on screening mammography utilization among Chinese-born immigrant women.” My name is _____ I appreciate your interest in this research study.

Do you have any questions before I give you some information about the study?

(If they have questions answer them as they come up. Make sure the conversation is relaxed and open with a good flow of information.)

Those are all great questions.

Before we start I have to ask you a couple of questions about you to make sure you are eligible to join the study.

Were you born in China?

Are you 40 or older than 40?

Can you speak and read Chinese?

Where did you get your elementary education?

Do you live in Orange County, Durham County, or Wake County?

I am so sorry, but you are not eligible for this study...

Great, you are eligible to join the study, let me tell you a little more about the study.

We are conducting this study to see how Chinese-born immigrant women adapt to the typical U.S. health care services, in particular, routine screening mammography after immigration.

We would like to learn about your beliefs about health, illness, breast cancer, illness prevention, screening mammography and U.S. health care. We also want to learn about the factors that influence your screening mammography utilization.

When in the study, you will be asked to do an initial face-to-face interview. The interview is easiest if it is quiet and we are alone without interruption. We can do the interview at your home if that is convenient and there will not be interruptions. Or, we can do the interview at a conference room in a low traffic area provided by the Chinese Christian Mission Church. If follow-up interviews are needed, these follow-up interviews will not be more than 3 times. Each interview will last for 45 minutes to 1 hour. You are also asked to invite me at least twice to spend time with you as you do activities at your home or in your community that you think are related to health or health promotion. Examples of these activities include going out for eating, grocery shopping, cooking, exercise, and meeting or consulting friends or other people in the community who are not working for any health care related positions such as physicians or nurses etc. for health information. I will accompany you to each activity and watch you participate in the activity. If you invite me to an activity happening in a place outside your home that needs access permission such as a Yoga instead of a public place such as a park or a neighborhood street, you are asked to give the name or contact information of the agency to me at least 24 hours before going to the activity. I will contact the agency to get

permission to accompany you there. In case I cannot get permission, then an alternative activity that you agree to will be observed. All the interviews and visiting activities must be finish in the next few months. The participation in this research study including the initial interview, follow-up interviews and visiting activities is voluntary, and it is fine if you choose not to participate in the study at any time. To thank you for your time and efforts to the study, you will get a total of \$20 upon completion of study activities without dropping out.

Do you have questions I can answer for you?

Those were great questions!

Do you think this is something you would like to do? Are you interested in setting up an appointment for the initial interview now?

What day and time would work for you? I am pretty flexible!

Great, I will see you on_____ at your home and we will go over the consent for you (permission sheets that you will be asked to sign). If you decide to join, I will do your first data collection at that time.

Appendix III

THE GUIDE FOR THE INITIAL INTERVIEWS

(This is an example of types of interview questions. Additional questions to clarify the participants' answers might be asked during the interview. The interview will last between 45 minutes to one hour.)

Interviewer:

Participant:

Date:

Site:

Hi, (name). Thank you for agreeing to talk with me about health care in the U.S. I am interested in your ideas about health and your experiences with health care.

First, I'm going to ask you some questions about you:

1. When were you born? Where were you born? Where did you grow up?
2. Where did you get your elementary education?
3. Where did you get your education after elementary school? In China? (to what grades?) In the US? (to what grades?)
4. What education have you had? What is the highest grade or level that you have completed? High School? Any college?
5. Were there any big life changing events when you grew up? Any influences on you?
Please describe the events and the influences.
6. When did you come to the United States? When did you get your green card? When did you become a U.S. citizen?

7. Would you tell me the story about how you came to the U.S.? What reasons for coming and how you ended up living here in NC?
8. Do you live alone or with others? Married? If married, how the marriage influences your life? Tell me a story about it. If living with others without marriage, tell me a story how it influences your life. If live alone, tell me a story how it influences your life.
9. Do you work outside of your home? What is your occupation? (or what was your occupation when you were working?) If work outside, tell me a story how it influences your life; if not working outside, tell me a story it influences your life.
10. How much approximately is your annual home income?
11. Do you have health insurance? Does your health insurance cover screening mammography?
12. Would you describe yourself as belonging to a religion? Have you always followed that? What spiritual beliefs have guided you in your life?

Now I'm going to ask about health and health care.

1. What is health? What does it mean to you to have good health (or be healthy)? What is poor health? How does someone get good health? How does someone keep good health?

Can you think of an example or a situation where you or someone you know does things to have good health? Or poor health? A situation where you might say look, that person is doing things to have good (or poor) health. What things did you (the person) do? What did you (the person) not to do?
2. What things can cause illnesses? Are people able to prevent becoming ill?
3. Are there ways to maintain health and avoid illness?

4. Are there things that health providers (doctors or others) can do to help people stay healthy? Prevent illness?
5. As a woman, are there any illnesses that you are worrying about getting? In the U.S., you hear people talking about illnesses such as cancer or heart disease. For example, many people talk about breast cancer. Do you have any thoughts or ideas about breast cancer?

What is it? Who gets breast cancer? Do you have any ideas about what causes breast cancer? Are there ways to prevent breast cancer? Has anyone that you know had breast cancer?

6. What can you tell me about mammography? Imagine that a close woman friend or perhaps your sister just came to the U.S. from China. If she asked you “what is mammography? What is it for?”
7. If the person then asked you if she should have mammography, what would you tell her?
8. Have you had any experience with mammography? Ever had one?

a. If yes: Why did you have mammography? What led you to decide to get mammography? What was it like? Can you describe your experience? Will you go again? What could happen if you got another mammography? What could happen if you did not get any more mammography?

b. If no: Have you ever thought about getting one? Has anyone ever suggested that you get one? What reasons for not getting one?

c. What things might make it easier to get a mammography in the future? What things make it difficult to get a mammography?

Now we are going to talk about general health care services.

1. You have seen a health care provider in China and here in the U.S. How does health care here compare with health care in China? Can you give me a specific example? Tell me about a situation that happened to you (or someone you know) in China and then a situation that happened to you (or someone you know) here. How would your experience have been different if it had been in China?
2. Usually where do you get your health care service?
3. Usually how do you get the information about health care services?

Appendix IV

THE OBSERVATION DATA SHEET

(This is an example of types of information that can be observed during participant observation. The participant observation approach will be casual, relaxed and friendly as the observer spends time with the participant when the participant goes about her normal activities. During the observation, focus should be put on the participant. Only those individuals who interact with the participant or the PI will be observed.)

Observer:

Participant (dummy number used only):

Date and Time:

Site:

Actors (who interact with the participant or the PI):

Activity:

The following aspects should be observed:

1. The participant and the actors' appearance: clothing, physical appearance, and anything that might indicate the participant or the actors' membership in a group or a subgroup such as possible profession, socioeconomic class, and ethnicity.
2. The participant and the actors' verbal behavior and interactions: who speaks to whom and for how long; who initiates interactions; languages or dialects spoken; tone of voice; how they use their voices to communicate different emotions.
3. The participant's physical behavior and gestures: what the participant does; whom the participant interacts with; how the participant uses her body (eye contact? gestures?) to communicate different emotions.

4. The actors' physical behavior and gestures during their interaction with the participant or the PI: what the actors do; who does what; who interacts with whom; how actors use their bodies (eye contact? gestures?) to communicate different emotions.
5. The participant and the actors' personal space during the interaction: how close the participant and the actors stand to one another; what the participant and the actors' preferences regarding personal space suggest about their relationships.
6. Human traffic for the actors: during the observation time, actors who enter, leave and spend time at the observation site (where actors enter and exit; how long they stay; whether they are alone or accompanied; number of people).
7. Actors who stand out: identification of actors who receive a lot of attention from others (the characteristics of these individuals; what differentiate them from other; whether others consult them or they approach others; whether they seem to be strangers or well known by others present)

Appendix V
CONTACT SUMMARY SHEET

Participant:

Date:

Interviewer:

Time:

Setting:

1. What were the main issues or themes that struck you in this contact?

2. Summarize the information you got (or fail to get) on each of the target questions you had for this contact.

3. Anything else that struck you as salient, interesting, illuminating or important in this contact?

4. What new (or remaining) target questions do you have in considering the next contact with this participant or others?

Appendix VI

VERBAL CONSENT SCRIPT

Hello, My name is _____. I'm doing a research that requires looking at interaction. I'm here observing today. Do you mind if I include you in the observation? The observation is voluntary, of course.

(if consented) Great! Thank you for your cooperation!

(if not consented) That's fine. Have a good day!

Appendix VII

ILLUSTRATION OF TREE CODES

Cultural health beliefs

Beliefs about health and illness

Meaning of health

Mental health

Physical health

Meaning of illness

Abnormal physical status

Abnormal mental status

Imbalance between “yin” and “yang”

Beliefs about health promotion and illness prevention

Beliefs about health care practice

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