Perceived Health Status, Perceived Self-Efficacy, and Health Promoting Behaviors of Bangladeshi Postpartum Women

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ABSTRACT

This study aimed to: 1) examine the level of perceived health status, perceived self-efficacy, and health promoting behaviors; and 2) to investigate the relationships among perceived health status, perceived self-efficacy, and health promoting behavior of Bangladeshi postpartum women. A descriptive correlational study design was conducted at the Expanded Program of Immunization Centre of Chittagong Medical College Hospital, Chittagong, Bangladesh. A sample of 120 postpartum women was selected using the purposive sampling method. The research instruments consisted of four parts including: Demographic Characteristics; Perceived Health Status Questionnaire (PHSQ); Perceived Self-efficacy Questionnaire (PSEQ); and Health Promoting Behavior Questionnaire (HPBQ). The Cronbach's alpha coefficients of PHSQ, PSEQ, and HPBQ were .91, .97, and .94 respectively. Descriptive statistics and Spearman rho were employed to analyze the data.

The results showed that postpartum women reported a high level of perceived health status (M = 64.07, SD = 9.92), of perceived self-efficacy (M = 209.83, SD = 20.24), and of health promoting behaviors (M = 133.66, SD = 14.06). In addition, all

sub-dimensions of the HPBs were also at high level except physical activity. The perceived health status was moderately positively correlated with HPBs (r = .61, p < .01). The perceived self-efficacy was highly positively correlated with HPBs (r = .83, p < .01), and the perceived health status was moderately positively correlated to perceived self-efficacy (r = .68, p < .01).

The findings of this study suggested that perinatal nurses should provide the appropriate strategies for enhancing health promoting behaviors. It should be taken into account that perceived health status and perceived self-efficacy are the influencing factors on the health promoting behaviors of Bangladeshi postpartum women.

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CHAPTER I

INTRODUCTION

Background and Significance of the Problem

In developing countries, most mothers experience serious health problems during pregnancy, delivery, and the postpartum period. Every year nearly 515,000 maternal deaths occur in the world, 99% of which take place in developing countries (Islam, Chowdhory, & Akhter, 2006), and 95% of these deaths occur in Africa and Asia (Parkhurst & Rahman, 2007). In Bangladesh, maternal mortality presents a dreadful picture. Previous studies reported that the maternal mortality rate in Bangladesh ranges from 3.2 to 3.8 per 1000 live births (Bhuiyan, Mukherjee, Acharya, Haider, & Begum, 2005; Islam, Hossain, Islam, & Haque, 2005; Parkhurst & Rahman, 2007; Pitchforth, Teijlingen, Graham, Dixon-Woods, & Chowdhury, 2006; Reza, 2008). Maternal deaths at Chittagong Medical College Hospital in Bangladesh were 9.15/1000 to 8.81/1000 live birth in the year 2007 and 2008, respectively (Shahnaz, 2008; Zebunnesa, 2009). Most of the maternal deaths occur during the postpartum period and most maternal morbidities also arise at that time (Goodburn, Gazi, & Chowdhury, 1995; Li, Fortney, Kotelchuck, & Glover, 1996).

The causes of the postpartum maternal deaths are postpartum hemorrhage (PPH) that takes place with 25% of all maternal death, with puerperal sepsis causing an additional 15% of the deaths (Jarrah & Bond, 2007). The rest of the causes are eclampsia, sepsis, unsafe abortion, and obstructed labor (Islam et al., 2005). Moreover, for every maternal death there are more women who experience chronic

morbidities or complications due to pregnancy and childbirth (Chowdhury, Islam, Gulshan, & Chakraborty, 2007; Islam et al., 2005; Jarrah & Bond, 2007; USAID, 2005). In Bangladesh, four out of five women may have the experience of at least one morbidity during postpartum period (Fortney & Smith, as cited in Chowdhury et al., 2007). It is evident that a large proportion of women who suffer from severe complications are admitted to the hospital (Shahnaz, 2008).

In Bangladesh, only 18% of births are assisted by a skilled provider (National Institute of Population Research and Training [NIPORT], Mitra, & Associates, Macro International, 2009). In addition, it has been found that of the women who got obstetric complications for all types of complications, the levels seeking treatment were consistently lower when they were not perceived as life-threatening. The most common reasons for not seeking treatment for obstetric complications which are perceived as life threatening were cost-related. The second reason was the perception that treatment was unnecessary or that the condition was not serious. Other service related barriers to seeking care involved transportation and access issues, family opposition and concerns related to the quality of service. In terms of women's knowledge of life threatening obstetric complications, only one-third sought treatment from a medically qualified provider. The other two-thirds either did not seek care or sought care from an unqualified provider (Koenig et al., 2007). This suggests a much higher level of awareness of the need for care.

Therefore, the postpartum period is most crucial for women when recovering from pregnancy-related effects and childbirth (Makumbe, 2001). It is potentially a stressful period during which a woman needs to face both the new tasks of her maternal role and changes in her body. Along with these new tasks, there are changes

in relationships, economic demands, and social support needs (Hung & Chung, 2001). These changes may result in postpartum health problems that may adversely affect both physical and mental health during this time (Bahadoran, Azimi, Valiyani, & Ahmadi, 2009; Cheng & Li, 2008; Hung & Chung, 2001). The sixth week postpartum check-up has been documented and is one of the promoting and preventive strategies through which women are empowered to take the responsibility for their own health (Makumbe, 2001). However, this postpartum care for mothers and infants within 42 days of delivery was uncommon in Bangladesh (Koenig et al., 2007).

Women may view their postpartum period as a healthy, normal process, or as a condition warranting close medical supervision, or as a potential life threatening or dangerous event. However they view it all are related to how the women perceive their health. Those who believe that they are in better health are more likely to maintain and perform health promoting behaviors (HPBs) (Capik, 1998). The impact of the perceived health status on HPBs has been examined in several studies. For example, Wilson (1991) found that perceived health status had a strong relationship with mothers' HPBs. Similarly, Leetheeragul (1998) found that pregnant Thai women who were hepatitis B carriers had health perceptions that explained 20% of the variance in HPBs. Other studies have also reported a positive relationship between perceived health status and HPBs among diverse healthy populations (Duffy, 1997).

However, Garcia and colleagues (1995) employed path analysis to indicate relationship of perceived health status to the exercise behaviors of youths. They found that perceived health status had an indirect relationship to the exercise behaviors of their study population through the beliefs about benefits and barriers. Thus there are

controversies in the studies of the relationship between perceived health status and HPBs.

Women are often motivated from pregnancy through the postpartum period to practice health behaviors to promote well-being for themselves and their fetuses or babies. To generate such motivation, psychological self-efficacy is essential to help a woman recognize how well she can handle and/or deal with their new circumstance in relation to HPBs (Misawa, Oe, Saimon, & Endo, 2007). For example, a study has identified exercise adherence as the main key to the effectiveness of pelvic floor muscle exercises. In addition, perceived self-efficacy has proved to be an influential predictor of adherence to physical activity and exercise in general (Chen, 2004).

HPBs are actions or behaviors that improve or promote one's health or well-being. Stark and Brinkley (2007) found that during a high-risk pregnancy, women who engage in more health promoting behaviors may experience less stress. Similarly, the study of Thanomroop (2000) found that health promoting behaviors of most pregnant Thai women were at a rather good level because of the perceived benefits of HPBs. This made them ready to engage in this behavior.

Another study conducted by Sriyuktasuth (2002) identified six specific dimensions of health promoting behaviors (HPBs) in Thai women with SLE. These included physical activity, nutrition, interpersonal relationships, stress management, and health responsibility. The author found that perceived health status was directly related to perceived self-efficacy. It also had a significant indirect path through perceived self-efficacy to HPBs, but there was no significant direct path from perceived health status to HPBs. Additionally, perceived self-efficacy had a significant direct relationship to the HPBs. In contrast, Bottorff, Johnson, Ratner, &

Hayduk, (1996) explored the effects of perceived self-efficacy and perceived health status on the maintenance of HPBs in women. It was found that these factors affected particular HPBs but were smaller in magnitude and contributed little to the explanation of the specific HPBs or their stability. To sum up, perceived health status and perceived self-efficacy influenced the HPBs; however, the studies reviewed show that there have been inconsistent effects of these variables on the HPBs.

The postpartum period is crucial as it affects the health of the postpartum woman herself and her child in both the short and the long terms. Limited findings suggest that it is a time of extreme health risk for many women in Bangladesh (Uzma et al., 1999). A very high proportion of mothers reports ill-health during pregnancy and the postpartum period. For example, one such study conducted by the Bangladesh Rural Advancement Committee, found that 92% of women reported an episode of ill-health during the first six weeks postpartum, and 48% reported continued ill-health at the end of this period (Goodburn et al., 1994). Although the majority of studies which have explored maternal mortality and morbidity that have been conducted document ill-health in itself and this is important. However, it is equally important to gain an insight into how these mothers perceive their health situation, and how they respond to it in terms of healthcare behaviors.

Globally researchers have increasingly addressed the importance of healthy lifestyles. Therefore, it was considered worthwhile to investigate the levels of perceived health status, perceived self-efficacy, and HPBs and to examine the relationship among them in Bangladeshi postpartum women. Ideally, healthcare providers will be able to use the results of this study as a guideline for enhancing HPBs of postpartum women.

Objectives of the Study

The objectives of this study were as follows:

1. To describe the level of perceived health status of Bangladeshi postpartum women

2. To describe the level of perceived self-efficacy of Bangladeshi postpartum women

3. To investigate the levels of overall HPBs and its six specific dimensions including health responsibility, physical activity, nutritional management, interpersonal relationships, spiritual growth, and stress management of Bangladeshi postpartum women

4. To examine the relationships among perceived health status, perceived self-efficacy, and HPBs of Bangladeshi postpartum women

Research Questions of the Study

The research questions of this study were as follows:

1. What is the level of perceived health status of Bangladeshi postpartum women?

2. What is the level of perceived self-efficacy of Bangladeshi postpartum women?

3. What are the levels of overall HPBs and its six specific dimensions?

4. Is there a significant relationship between perceived health status, perceived self-efficacy, and the HPBs of Bangladeshi postpartum women?

Conceptual Framework of the Study

The conceptual framework of this study was developed and based on a revised Health Promotion Model (HPM) (Pender, Murdaugh, & Parsons, 2006) and related literature. This model is an attempt to depict the multidimensional nature of persons interacting with their interpersonal physical environments as they pursue health. Three important components in the model are: a) individual characteristics and experiences; b) behavior-specific cognitions and affect; and c) behavioral outcome. The researcher proposes below to explore one factor from each construct and describe it.

Individual characteristics and experience have both an indirect influence through behavior-specific cognitions and affects and a direct influence on behavioral outcomes. The behavior-specific cognitions and affect are important factors that influence health-promoting behavior (Pender et al., 2006). They are sensitive to nursing actions. Moreover, perceived self-efficacy is the strongest predictor of HPBs. Each person has unique personal characteristics and experiences that affect subsequent actions. Perceived health status is one of the psychological factors that can either directly or indirectly affect HPBs. It is an integrative concept that reflects an individual's assessment of his/her current state of health. In this study, the variable of perceived health status was selected because it may be a determinant of the frequency and intensity of HPBs (Frank-Stromborg, Pender, Walker, & Sechrist, 1990; Pender, 1987). The more positive the perception of health, the more likely an individual is to engage in HPBs.

Behavior-specific cognitions and affect is the set of variables within the HPM and it is considered to be the major significant motivator. They are perceived benefits of action, perceived barriers of action, perceived self-efficacy, activity-related effect, interpersonal influences, and situational influences, These variables constitute a critical core for intervention because they are subject to modification through nursing actions. Perceived self-efficacy is the personal judgment of one's ability to carry out a particular course of action (Bandura, 1986). People with high self-efficacy, are likely to succeed. In this study, perceived self-efficacy is selected because numerous studies have shown that perceived self-efficacy was positively related to health promoting lifestyle behavior (Weitzel & Waller, 1990; Yamchanchai, 1995). It is proposed as being influenced by activity related affect, the more positive the affect, the greater is the perceptions of efficacy.

The behavioral outcome is the end point, or the action outcome in the HPM. However, health promoting behavior is ultimately directed toward attaining positive health outcomes for the client (Pender et al., 2006). The HPBs of postpartum women are essential for preventing illness and for improving health through the lifespan. The HPBs can be categorized into six dimensions: 1) health responsibility; 2) physical activity; 3) nutritional management; 4) interpersonal relationships; 5) spiritual growth; and 6) stress management (Chen, Kuo, Chou, & Chen, 2007; Pender et al., 2006; Stark & Brinkley, 2007). Therefore, the variables of perceived health status and perceived self-efficacy derived from the components of HPM were anticipated to make a contribution to the behavior outcomes. The conceptual framework of this study is shown in Figure 1.

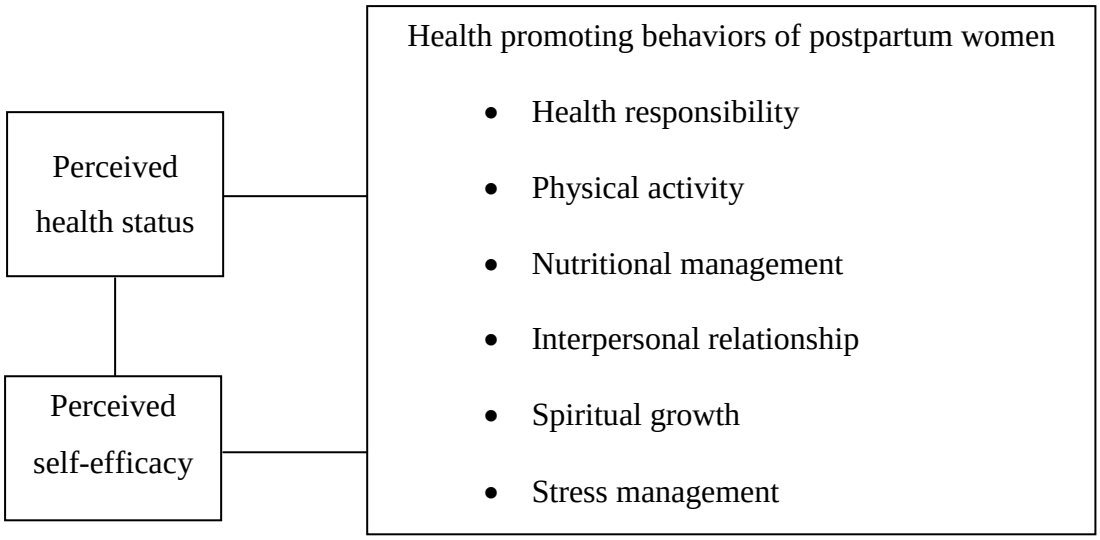

Figure 1

Conceptual Framework of the Study

Hypothesis

There are positive relationships among perceived health status, perceived self-efficacy, and health-promoting behaviors of Bangladeshi postpartum women.

Scope of the Study

This study aimed to explore the level of perceived health status, perceived self-efficacy, HPBs and the relationships between perceived health status, perceived self-efficacy, and HPBs of Bangladeshi postpartum women. The study was conducted from December 2009 to February 2010. The subjects in this study were postpartum women who came to the Expanded Program of Immunization (EPI) center of Chittagong Medical College Hospital, within 1½ – 2 months after delivery along with their babies to receive the first immunization.

Definition of Terms

Perceived health status is the self assessment of the level of the current health status of Bangladeshi postpartum women. The perceived health status consists of general physical health and mental health perceptions. In this study, perceived health status was measured by using a Perceived Health Status Questionnaire. The higher scores indicate the superior perceived health status.

Perceived self-efficacy is the level of confidence of Bangladeshi postpartum woman concerning two aspects: self-efficacy expectation and outcome expectation. Self-efficacy expectation refers to the perceived ability to perform a particular action or behaviors that produce a desire outcome. Outcome expectation is the postpartum women's belief that as a postpartum woman a given behavior will produce a particular outcome of good health. It was measured by the Perceived Self-Efficacy Questionnaire. The higher scores indicate the superior perceived self-efficacy.

Health promoting behaviors (HPBs) refer to the level of postpartum self-care activities perceived by Bangladeshi postpartum women. It was measured by a four-point Likert scale through the Health Promoting Behavior Questionnaire. The higher score indicates the higher level of HPBs. There are six dimensions. Each dimension is defined as follows:

1. Health responsibility refers to Bangladeshi postpartum women's activities related to their own health in terms of: the utilization of healthcare services; healthcare seeking including seeking information for an unexpected physical and emotional discomfort; coping strategies, skills, and resources needed to meet the

challenges of motherhood for baby care; and adjustment about themselves during the postpartum period.

2. Physical activity refers to Bangladeshi postpartum women's activities related to daily activities and postnatal exercises to maintain the balance of their bodies and increase the perineum muscle strength.

3. Nutritional management refers to the activities of Bangladeshi postpartum women related to eating behavior for promoting healing and recovery, and for the sufficiency of breastfeeding for the baby.

4. Interpersonal relationship refers to Bangladeshi postpartum women's activities related to the relationship with others and family support.

5. Spiritual growth refers to Bangladeshi postpartum women's activities related to the ability to reappraise and re-evaluate their life event as a postpartum woman. This is done in an attempt to make sense of their health and the effect of changes during this time, and to find meaning, hopes for the future, strength, and connections in life.

6. Stress management refers to Bangladeshi postpartum women's activities related to the strategies to respond or cope with the demands of healthcare needs, child rearing, and parenting roles.

Significance of the Study

According to the HPM developed by Pender et al. (2006), health promotion is viewed as personal behavioral change for enhancing a person's potential for health and well-being. One assumption of the model is that an individual has the most

influence on decisions to form and maintain HPBs and to modify the environment for promoting his or her own health.

Despite initiatives and interventions undertaken at national and international levels, maternal health is still neglected in Bangladesh. The maternal mortality ratio remains one of the highest in the world. Therefore, the outcomes of this study could make significant contributions to caring for postpartum women. They may help understanding and offer direction for nursing practice in order to improve the HPBs of Bangladeshi postpartum women. The information obtained in describing the HPBs and factors of perceived health status and perceived self-efficacy could be useful for healthcare professionals to develop and implement appropriate health promotion interventions for Bangladeshi postpartum women. As a result, the quality of care for postpartum women could be improved, and the needs and demand for medical care and healthcare costs could be decreased.

CHAPTER 2

LITERATURE REVIEW

This study is a descriptive research aimed to describe the level of perceived health status, perceived self-efficacy, and HPBs; and to examine the relationships between perceived health status, perceived self-efficacy, and HPBs of Bangladeshi postpartum women. The literature covers the following topics:

1. Postpartum Care in Bangladesh
2. Health Promoting Behaviors
    2.1 Health Promotion Model
    2.2 Health Promoting Behaviors of Postpartum Women
    2.3 Factors Related to the HPBs of Postpartum Women
3. Perceived Health Status of Postpartum Women
    3.1 Factor Related Perceived Health Status
4. Perceived Self-Efficacy of Postpartum Women
    4.1 Factor Related Perceived Self-efficacy
5. Relationships between Perceived Health Status, Perceived Self-Efficacy, and Health Promoting Behaviors

1. Postpartum Care in Bangladesh

Despite the Government's serious commitment to provide health facilities on the people's doorsteps through innovative approaches in Bangladesh, the utilization of health services during the antepartum, pregnancy and postpartum period is still far

below any acceptable standard (Chowdhury et al., 2007). In countries where resources are limited, maternal mortality is high and most deliveries take place at home. Bangladesh is one of these countries, where the majority of women attempt to deliver their children at home (Parkhurst & Rahman, 2007).

Bangladeshi women have been found to pursue multiple healthcare paths. At crisis moments, when facing problems at home, women and their families often call on the services of alternative health practitioners. These may play important roles in the decision to seek professional medical care and whose opinions may extend or reduce the delay in reaching a facility. Generally, there are seven categories of healers outside the public sector in Bangladesh. These are; private professional allopathic doctors, unqualified allopathic practitioners, homeopaths, ayurvedic or unanic practitioners, traditional midwives, spiritual healers, and others (Parkhurst & Rahman, 2007).

Bangladesh targets to achieve the Millennium Development Goal 5 (MDG 5) by reducing the maternal mortality ratio (MMR) by three-quarters between 1990 and 2015. To achieve this, the annual rate of decline needs to triple. Much less is known about the use of postpartum care, the importance of which has only recently become a concern given that most maternal and newborn deaths occur within 48 hours of delivery. Eighty-three percent of women do not seek postpartum care because they do not feel any need for it (68%), costs are involved (18%), and it is ‘not customary’ (9%). The other reasons for this neglect were decision-making powers, or motivation to seek care during this period, or the belief of having survived birth contributes to survival in the next phase as well (Koblinsky, Anower, Mridha, Chowdhury, & Botlero, 2008). Therefore, the use of health services is related to the availability,

quality, and cost of the service as well as the social structure, health beliefs, and the personal characteristics of the users (Chowdhury et al., 2007).

2. Health Promoting Behaviors

Health promoting behaviors (HPBs) are actions relating to health promotion that maintain the positive health outcomes of individuals combined with healthcare lifestyles. They are very important for postpartum women to perform in their daily living in order to maintain their own health and their baby's health. A number of studies have mentioned components of HPBs such as exercise, eating healthy food, managing stress, having regular sleep habits, maintaining a normal weight, feeling an inner peace, and eliminating substance abuse (Lee & Loke, 2005; Lee & Wang, 2005; Stuifbergen & Roberts, 1997). Pender (1987) pointed out that some behaviors may start out as preventive behaviors, but may become HPBs as a person practices them and grows to enjoy the positive feeling generated by them. Thus, it may be difficult to distinguish between preventive and HPBs in some situations. For example, people practice behaviors for both preventive and health-promotion reasons simultaneously. An example is exercise that not only reduces the risks of pregnancy induced hypertension (Artal, Toole, & White, 2003), but also makes women enjoy feeling better. Therefore, the promotion of physical activity could have tremendous effects on prolonged women's lives (Jones et al, as cited in Klankhajhon, 2008). In the current study of HPBs among Bangladeshi postpartum women, if an individual initiates her own HPBs she is able to judge her own health status and can take care of her personal health and environment (Pender et al., 2006).

2.1 Health Promotion Model

Pender's health promotion model (HPM) (Pender et al., 2006) is based on personal responsibility for one's own health, in which human health is viewed as a complex paradigm affected by personal, social, and environmental factors. The variables in the HPM are categorized into two groups of major components that affects behavioral outcomes. These are individual characteristics and experience, and behavior-specific cognitions and affect. In order to promote and facilitate the HPBs among the Bangladeshi postpartum women, it is necessary to understand the variables that affect their decisions to engage in such behaviors as part of postpartum self-care.

2.1.1 Individual characteristics and experience

Personal factors have been categorized into biologic, psychological, and socio-cultural aspects. Personal biologic factors include age, body mass index, pubertal status, menopausal status, strength, agility, and balance. Personal psychological factors include self esteem, self-motivation, personal competence, and perceived health status. Personal socio-cultural factors include race, ethnicity, acculturation, education, and socioeconomic status (Pender et al., 2006).

The postpartum period creates many challenges for women. Women's main concerns and anxiety in this period include: child rearing; lack of time for personal work; tiredness; breast and nipple soreness and a negative image of their body; and lack of sleep which can cause agitation and reduce their physical and emotional abilities (Borders, 2006; Hung, 2007). As a consequence, these situations may cause how postpartum women perceive their health. In the current study, perceived health status is selected because through the cognitive process, postpartum either women perceive their health as healthy or not. In turn, the likelihood of

engaging in HPBs may be affected or anticipated to make a contribution to the behavioral outcomes.

2.1.2 Behavior-specific cognitions and affect

Behavior-specific cognitions and affect are considered to be a significant motivator for the acquisition and maintenance of HPBs (Pender et al., 2006). The behavior-specific cognitions and affect variables identified within the model are: a) perceived benefits of action; b) perceived barriers to action; c) perceived self-efficacy; d) activity related affect; e) interpersonal influences; and f) situational influences. These variables are proposed as influences on healthy HPBs.

Self-efficacy expectancy is an individual's conviction that he or she can successfully perform certain tasks or behaviors in a given situation; outcome expectancy is the belief that a given behavior will lead to a given outcome (Bandura, 1997). This distinction is important because an individual may believe that a certain behavior could help him or her accomplish a specific goal. However, he or she may feel incapable of personally performing the given behavior in the particular situation. Therefore, an individual's belief in the outcome of the behavior alone does not result in performance unless the individual also believes that the behavior can be executed successfully (Dennis & Faux, 1999). Moreover, efficacy expectation has been found to have greater predictive power on overall outcomes and in explaining the majority of the variances in behavior change (Bandura, 1997).

In the health promotion model, perceived self-efficacy is proposed as being influenced by activity related affect. The more positive the affect, the greater are the perceptions of efficacy. Self-efficacy is proposed as influencing perceived barriers to action, with the higher efficacy resulting in lowered perceptions of barriers

to the performance of the target behavior. Self-efficacy motivates HPBs directly by efficacy expectations and indirectly by affecting perceived barriers and determining the level of commitment or persistence in pursuing a plan of action (Pender et al., 2006, pp. 53-54). Thus, perceived self-efficacy serves as a source of motivation for behaviors that increase personal health status.

Self-efficacy has been examined, and its potential impact on HPBs in several health promotion studies has been consistently reported. However, these studies have rarely included the HPBs of postpartum women in developing countries, including Bangladeshi women. In addition, Pender et al. (2002) reviewed studies conducted to test the HPM. They found that 86% supported perceived self-efficacy as a significant variable influencing HPBs, 79% supported perceived barriers, 61% supported perceived benefits, 57% supported in interpersonal influences, and 56% supported situational influences. Therefore, perceived self-efficacy is a selected variable from the behavior-specific cognitions and affect in the current study.

2.2 Health Promoting Behaviors of Postpartum Women

HPBs are very important for postpartum women. During this period, a mother maintains many roles which automatically cause physical, psychological and social changes that lead to some deviation from normal. Individual strength and competency enhanced maternal attachment and positive health (Bryanton, Gagnon, Johnston, & Hatem, 2008). Inappropriate health behavior, such as, receiving an inadequate diet, insufficient rest, vigorous working, anxiety, stress and lack of postpartum care may have an effect on postpartum health.

Healthy behaviors can reduce the postpartum health problem (Thanomroop, 2000). HPBs are directed towards attaining the positive health

outcomes incorporated with several health behaviors. Engaging in these activities has been an essential strategy for postpartum women to overcome postpartum health problems. The healthcare system provides several sources of information about postpartum care, including that of nursing staff during a woman's postpartum hospital stay. This period may not be a good time for women to gain information about caring in their home, however, as they are focused on their recovery from postpartum health problems (Moran, Holt, & Martin, 1997). Some conditions such as living with chronic complications make it difficult for them to implement HPBs. Stuifbergen and Roberts (1997) stated that the practice of HPBs can maintain and enhance health, prevent premature death and secondary disability, maximize functional status, and improve the quality of life of individuals with a chronic condition. Thus, the positive outcomes related to participating in HPBs have been supported in several studies.

According to HPM (Pender, 1996: 134; Pender et al., 2002: 135; Walker, Sechrist, & Pender, 1987: pp. 76-81), the major components of a healthy lifestyle will be developed in six dimensions including: health responsibility; physical activity; nutritional management; interpersonal relationships; spiritual growth and stress management. Postpartum women have to establish healthy behaviors for the benefit of being a healthy mother, both physically as well as psychologically, during the postpartum period as in the following.

2.2.1 Health responsibility

Postpartum women should follow activities related to self-care management, observation of their body changes, seeking information or knowledge and postpartum care in order to promote their own health and the baby's health. Capik (1998) stated that the health responsibilities for every postpartum woman are seeking

routine postpartum care services and information related to improving her self-care. The information related to postpartum complication, nutritional diet, activity, and rest play an important role in the prevention of the complications of the postpartum period.

2.2.1.1 General hygiene: Postpartum women need to bathe themselves and their babies with the umbilical cord care at least one time in a day. The women wash their breasts with warm water without soap, which prevents the removal of the protective skin oils (Houck, 2006). If the breast nipple is inverted, they should pull the nipple out by thumb and index finger. They need to perform perineal care by using warm water over the perineum or the episiotomy area after each voiding, and after each bowel movement several times per day. This is to promote comfort, cleanliness, healing, and also observe the decrease of vaginal bleeding gradually. In addition, the clothes and garments worn should be comfortable. It is important that the postpartum women should wear a bra to provide good support during night and day.

2.2.1.2 Working after childbirth: Most mothers return to work soon after childbirth. McGovern et al. (2007) suggested that postpartum women need to be evaluated regarding their fatigue levels and mental and physical symptoms. Women whose fatigue or postpartum symptoms limit daily role functions may find it helpful to have counseling from healthcare clinicians and strategies. This is to decrease job stress, increase social support at work and home, and certify their use of intermittent family and medical leave to help them manage their symptoms. Similarly, Howell, Mora, Dibonaventura, and Leventhal (2009) also stated that postpartum physical and emotional symptoms limit their daily functions. They suggested that providing social

support and teaching skills to enhance self-efficacy will reduce the incidence of postpartum symptoms.

2.2.1.3 Postpartum visit: Within six week after delivery, women need a postpartum visit. It is important for preventive screening and ensuring that physical and emotional health is assessed at the sixth week postpartum visit. Discussions about family planning are most appropriate at this time (Davidson, London, Ladewig, 2008: 1066; Makumbe, 2001).

2.2.1.4 Sexual functions: After childbirth, the reproductive organ returns to normal or the non-pregnant state after at least 6 week (McGovern et al., 2006). Couples are formally discouraged from engaging in sexual function until 6 weeks postpartum. Current practice is for the couple to be advised to abstain from intercourse until the episiotomy is healed and the lochial flow has stopped, usually by the third to sixth week postpartum (Davidson et al., 2008). One study found that the 53% of women reported having sexual problems during the immediate postpartum period (Borders, 2006). Hence, postpartum mother needs time for her recovery, to adjust to the new role of mother, and to care for the growing baby. Although this is a personal choice, two successive years is recommended at least before the next pregnancy. Therefore, the use of contraceptives in the postpartum period is required to prevent pregnancy (Care-postnatal and puerperium, n.d.).

2.2.2 Physical activity

Regular physical activity is essential for healthy, energetic, and productive living. This is defined as the movement produced by skeletal muscles that results in expenditure of energy and includes a broad range of occupational, leisure-

time, and routine daily activities. These activities can be either light or moderate, rather than vigorous (Pender et al., 2002).

Postpartum exercises are beneficial for postpartum women, especially pelvic floor exercise and kegel exercises which helps to improve the body and tightens the perineal muscles and vaginal muscles (Davidson et al., 2008; Houck, 2006). Pelvic floor exercise can prevent urinary incontinence. This is the condition in which there is involuntary loss of urine during coughing, sneezing or physical exertion (Dunkley, 2005). Therefore, postpartum women need to be encouraged to engage in physical activity, postpartum exercise, and to select enjoyable and practical activities. They have to be assisted in developing solutions to barriers, and be guided in identifying the personal benefits of an active lifestyle (Albright, Maddock, & Nigg, 2009).

Because of the significant changes in the sleep patterns of women in the early postpartum period, postpartum mothers need to balance between physical activity, sleep and rest to avoid such disturbances. Sleep hunger can affect the physical and emotional well being. Nursing care for such a population can assist by screening the fatigue and sleep issues, and offer a way to improve the mother's sleep effectiveness and reduce sleep disturbance. These will lead to improved functioning and ultimately will lead to improved enjoyment of motherhood (Rychnovsky & Hunter, 2009). An over aggressive approach to physical activity is believed to pose a risk for postpartum women. Light to moderate rather than vigorous physical activity is recommended for postpartum women. Davidson et al. (2008) stated that a regular exercise program including vigorous activities, such as, running, weight lifting, or competitive sports can usually be initiated after the 6 week postpartum examination or when approved by the physician or certified nurse-midwife.

2.2.3 Nutritional management

Healthy nutritional behavior is important for nurturing health. Eating patterns play a major role in preventing diseases and creating the capacity for energetic and productive living. The relationships between nutrition and health, community based health education programs and national dietary and food production policies, are focused on promoting optimum nutrition among persons of all ages (Pender et al., 2002).

Postpartum women should have appropriate eating habits to meet their needs. A woman's body has undergone many changes during pregnancy as well as in the postpartum period. After delivery, all mothers need to maintain a healthy diet to promote healing and recovery. The weight gained during pregnancy helps to build stores for recovery and for breastfeeding. Most lactation experts recommend that breastfeeding mothers should eat when they are hungry. But some mothers forget their meals due to busy schedule or tiredness. Thus it is essential to plan simple and healthy meals that include choices from all of the suggested foods, such as fresh vegetables, and fruits balanced with proteins and carbohydrates (Postpartum nutrition and lactation, n.d.). Although most mothers want to lose their pregnancy weight, extreme dieting and rapid weight loss can cause health hazards and affect breastfeeding. One pilot study found that integrating individual dietary and physical activity confirmed reduction of the postpartum weight (Kinnunen et al., 2007).

One study found that rural Bangladeshi women attached a very low quality of life score to Chronic Energy Deficiency (CED). They implemented the maternal and infant nutrition intervention project that aimed to assess the effect of food and micronutrient supplementation on a variety of infant and maternal outcomes.

These included maternal weight gain over the pre-pregnancy to postpartum period. Results showed that current health status was higher as compared to the score assessing the worst health scenario (Shaheen & Lindholm, 2006). Another study identified that that nutritional factors were possible determinant of postpartum infection. Poorly nourished women, who may also have micronutrient and vitamin deficiencies may be at special risk of postpartum infection (Goodburn, Chowdhury, Gazi, Marshall, & Graham, 2000). Thornton and colleagues (2006) studied weight, diet, and physical activity-related beliefs and practices among pregnant and postpartum Latino women, and the role of social support. They revealed that husbands and some female relatives were the primary sources of emotional, instrumental, and informational support for weight, diet, and physical activity-related beliefs and behaviors for Latina participants. Holistic health beliefs and the opinion of others consistently influenced the Latinas' motivation and beliefs about the need to remain healthy and the links between behavior and health.

2.2.4 Interpersonal relationships

Interpersonal relationships are the activities concerning the ability to make relationships with other people. A postpartum woman should have these activities in order to support and help herself when she has some problems. A good relationship brings warm a comforting atmosphere for encouraging HPBs (Caplan, as cited in Thanomroop, 2000). In the HPM, interpersonal influences are proposed as affecting HPBs directly as well as indirectly through social pressures or encouragement to commit to a plan of action (Pender et al., 2002). People in social network can support each other in various ways including in HPBs. Postpartum women may receive some support about information that they can use to solve their

problems and decrease their stress. Research findings have indicated that social support from the spouse and family was associated with a mothers' positive self-evaluation in parenting (Hung, 2007). The single mother is a risk to postpartum depression (Abrams & Curran, 2007; Marcus, 2009).

2.2.5 Spiritual growth

Spiritual growth is the activity that helps to develop one's spiritual nature to its greatest potential, including the ability to discover and articulate one's basic purposes of life. It helps people to learn how to help, to love, to be joyful, to be peaceful and to be fulfilled and how to help oneself and others to achieve their greatest potentiality. A postpartum woman who is enthusiastic in her activities will achieve her goals and have spiritual growth. In contrast, a new mother who lacks baby care skills, feels a loss of control in their lives and lack of time and space for themselves. Child-care responsibilities and lack of knowledge and preparation are sources of frustration and fatigue for new mothers (Cheng, Fowles, & Walker, 2006). Thus the study by Stark and Brinkley (2007) revealed that high risk pregnant women who had more stress had fewer HPBs in the area of spiritual growth, interpersonal relations, and stress management.

2.2.6 Stress management

Stress management is activity which could promote self-relaxation. These activities include having leisure time and sufficient rest (Thanomroop, 2000). Postpartum women should practice relaxation techniques, strike a balance between work and rest, and plan to manage their situation. New mothers must struggle to adapt to new role expectations and be propelled into support-seeking because of their lack of resources. Social support has been viewed as a buffer in times of stress, and is

defined as an interpersonal resource accessed and mobilized when individuals attempt to deal with the strains of life. Social support may be especially important for new postpartum women's status due to the demands of childbearing and parenting (Hung, 2007). Adaptive maternal behaviors are influenced favorably by the mother's perception of the amount of positive support she receives. In short, support is likely to increase the mother's sense of infant and self-care capability and success in relating to the infant, which will influence her ability to successfully execute household, maternal, and personal tasks. Stark and Brinkley (2007) studied the relationship between perceived stress and health promoting behavior in high risk pregnancy. They found that with a higher level of stress, there would be less HPBs.

2.3 Factors Related to the HPBs of Postpartum Women

According to Pender et al. (2006) personal factors have not only a direct impact on the likelihood of engaging in HPBs, but also an indirect impact on those behaviors through variables in the behavior specific cognitions and affect components. HPBs must be understood in relation to the context in which those behaviors are developed and encouraged, as well as in relation to the individual characteristics of the persons involved (Duncan, Jones, & Moon, 1993).

Demographic characteristics, including age, income, and education have been frequently documented in numerous studies to have a significant impact on health behaviors. Age was the only variable contributing to health habits in high risk pregnant Thai women (Tumgunma, 1997) and in pregnant Thai women who were hepatitis B carriers (Leetheeragul, 1998). In a study by Sinthanayothin, as cited in Sriyuktasuth (2002), who examined HPBs in 400 midlife working women in Bangkok, education, marital status, and age were personal factors influencing the

HPBs. Conversely, Duffy (1997) found that the demographic characteristics made only a minimum contribution to HPBs in employed Mexican American women. Thanomroop (2000) fond that 22% of variance of HPBs was accounted for by three factors: age; perceived benefits of action; and perceived barriers to action ($p < .01$). In this study, the factors related to the HPBs of Bangladeshi postpartum women are described below (Chen et al., 2007; Chowdhury et al., 2007; Suwonnaroop, 1999).

Age: Age is one of the factors that influence HPBs. In Bangladesh, one study found that at different ages, women are engaged in HPBs in different ways. Thus women aged 25-34 years, over one third (35.3%), sought care from a doctor/nurse/midwife. This was followed by 31.9% of the younger women (≤ 24 years), and 29.9% in the older age group (≥ 35 years). In addition, most women aged ≥ 35 years, did not seek treatment (Chowdhury et al., 2007). Klankhajhon (2008) found that age is positively correlated to exercise in pregnant women. Chen and colleagues (2007) found that the mother's age was weakly related to interpersonal relationships in the promoting a healthy lifestyle profile ($r = .25$, $p = .005$). Lee and Wang (2005) found that women's age is significant correlated with stress management. In contrast, a study by Caire-Juvera, Ortega, Casanueva, Bolaños, and Calderón de la Basca (2007) found that the energy and nutrient intakes of Mexican lactating women at one month postpartum were different by regional hospital and not by age.

Education: According to Pender (1987), education is an important factor for making decisions, understanding information, and planning to do HPBs. Education was found to have a positive relationship with the HPBs, and it had close relationship with cooperative behaviors (Karl & Cobb, as cited in Thanomroop,

2000). Lee and Wang (2005) found that women who are literate had a higher level of health responsibility. Hence, education for health promoting behavior about the importance of the maternal diet during lactation should be directed towards the increasing consumption of foods rich in micronutrients (Caire-Juvera et al., 2007). Similarly, Chowdhury et al. (2007) found that education showed a positive relationship with care seeking behavior. Klankhajhon (2008) also found that educational levels were positively correlated to exercise behaviors in pregnant women. In contrast, Chen et al. (2007) found that the education did not appear to affect any of the HPBs measured.

Parity: A woman who has had several pregnancies and births may have experienced the need for and understand the value on performing HPBs. She may solve her problems better than primipara women. In Klankhajhon's (2008) study of pregnant women using exercise behavior, the results revealed that all variables could jointly explain 16.5% of variance. These included age, income, educational level, gestational age, perceived benefit of exercise, perceived barrier to exercise, and perceived self-efficacy and number of pregnancies However, some studies did not find a relationship between gravidity and the self-care behaviors of pregnant women (Boontab; Opassiriwit; as cited in Thanomroop, 2000). Thus, parity has an inverse relationship with care seeking behaviors (Chowdhury et al., 2007).

Family income: Family income or economic status is a basic need in a healthcare system. Family income is good resource for individuals to use it to facilitate their lives. Nirattaradorn (1996) and Jackson, Tucker, & Herman (2007) reported that income had a positive relationship with HPBs. Nahar and Costello (1998) studied the costs and affordability of "free" maternity services at government

facilities in Dhaka, Bangladesh among 220 postpartum mothers and their husbands. They found that "free" maternity care in Bangladesh involved considerable hidden costs, which may be a major contributor to low utilization of maternity services.

Antenatal care (ANC): During ANC, women receive information regarding health promotion practices. Regular ANC is found to reduce the complications during pregnancy, and the intra - and postpartum periods (Thanomroop, 2000). The evidence showed that receiving antenatal care depended on educational level and place of residence. Women from urban areas are more likely to use ANC than women from rural areas, but education has an impact by raising ANC utilization both in urban and rural areas (Haque, 2009). In addition, the use of ANC services by a pregnant woman relates to the socioeconomic status of her household. Women in the worse conditions of socioeconomic status relied more often on governmental health services rather than the private health services (Boller, Wyss, Mtasiwa, & Tanner, 2003).

3. Perceived Health Status of Postpartum Women

Perceived health status is defined in different ways. Malathum (2001) defined perceived health status as an evaluation of the participant of his/her general health. Simons-Morton and colleagues (1995) stated that perceived health status is a subjective aspect that relates to feeling well, conveying the notion that individuals take control over their own health (Simons-Morton, et al., as cited in Malathum, 2001). Pender (1987) stated that perceived health status appears to play a role in the frequency and intensity of HPBs.

According to Kaufman (1996), an individual's perceptions of health status affect their health behaviors. For example, people who rated their health as poorer than others were more likely to utilize medical services than people who rated their health as better than others. There is one study that showed that the women who have a better preconception health will have greater perceived control (less job stress, or no prenatal mood problem) and better perceived health. Healthcare providers who treat women play an important role in improving preconceptions of health and healthcare. Women who exhibit lower levels of mental or physical health before pregnancy should be more closely monitored during the postpartum period (McGovern et al., 2007).

Perceived health status was found to be an important predictor of HPBs in many studies. For example, Weitzel (1989) tested the HPM to determine whether, selected components of the model related to HPBs in a sample of 179 blue collar workers. Multiple regression analysis revealed that after controlling for demographic variables, 13% to 26% of the variance of the total health-promoting lifestyle measure and its six subscales was accounted for cognitive/perceptual variables. These were importance of health, perceived health control, health status, and self-efficacy. Self-efficacy and health status were the most powerful predictors (Weitzel, as cited in Suwonnaroop, 1999). On the other hand, Laffrey (1986) found that perceived health status and health behavior choices were not related in a study of normal weight and overweight adults (Laffrey, as cited in Suwonnaroop, 1999).

Ahn and Youngblut's (2007) study revealed that at 2 months postpartum, many mothers also experienced pain in various parts of their bodies. For example, this was in the perineum (45.9% in Canada), cesarean section incisions (83% in the United

States), the back (54.5% in Canada), or head (23% in Canada). The prevalence rate of backaches and headaches remains high over the first postpartum year. Not only is pain a discomfort to mothers, it may impede a mother's timely response to her newborn's cry, thus causing a delay in meeting the child's needs. It has been shown that poor maternal physical health was related to children's reduced general physical health, frequent tantrums, and difficulty in playing with other children' It was also related to mother's feeling of difficulties in managing children's behaviors at 3 years of age.

In addition, mothers who perceived their health as poor did not initiate timely vaccination for children. This increased the health risks for children. Therefore, the health of women after childbirth can have a significant effect on physical and mental health and may be primary contributor to the health of the children. Healthcare providers can support these postpartum women by understanding how postpartum health is indicated by physical health, mental health and role functions. These are affected by various personal, social, familial and other health-related variables.

While the literature indicated the importance of perceived health status in influencing health behaviors, the findings from these studies were inconsistent The description of the sample also indicated that postpartum women subjects were under-represented in these studies. The extent to which the variable of perceived health status influenced participation in HPBs is still not clear and warrants further study. This group could be the sample to determine whether perceived health status significantly influences HPBs.

3.1 Factors Related to the Perceived Health Status

According to Pender et al. (2006), the perceived health status is a personal factor; it depends upon such matters as the age, education, and family income.

Age: Evidence has shown that adult postpartum women have better perceived health status than teenagers because they are more mature and this assists them to understand their health, and they have more ability to think, critique and make decisions (Lazarus & Folkman, 1984). In Bangladesh, adolescent mothers are more likely to suffer from pregnancy related complications and to die in childbirth than women who are older than 19 years (Haque, 2009). However, one study found that the most significant demographic factors that influences self assessed health are age and education. Older people may perceived their health as worse than young ones due to the presence of chronic diseases and physical conditions which are more often present in older age (Kaleta, Polanska, Dziankowska-Zaborszczyk, Hanke, & Drygas, 2009).

Education: Education offers intelligence, reason and cause, good decision making, understanding information, and being able to make decisions on health perceptions. (Pender, 1987). One study found that people with lower educational levels perceived their health as worse compared to those with university diplomas (Kaleta et al., 2009). Another study found that educational levels and perceived health status have significantly positive relationships with health promoting lifestyles (Lin, Tsai, Chan, Chou, & Lin, 2009).

Family income: Family income or economic status give opportunities to people to seek for anything that is beneficial for postpartum women. Research consistently demonstrates that people with higher socioeconomic status have better health and longer lives than those with lower socioeconomic status (Adler et al; Antonovsky; Feinstein; Krieger & Fee; Robert & House; as cited in Robert, 2002). Incomes had a correlation with ongoing behavior for maintaining health status. A

study of Nounboonrang, as cited in Thanomroop (2000), found that there were positive and significant relationships between family income (per month), preventing disease, and health promoting behaviors.

4. Perceived Self-Efficacy of Postpartum Women

According to Pender et al. (2006), self-efficacy is the judgment of personal capacity to organize and carry out a particular course of action. Self-efficacy is not concerned with the skill one has but with the judgments of what one can do with whatever skills one possesses. Judgments about personal efficacy are distinguished from outcome expectations. Within the revised HPM, perceived self-efficacy is defined as the desire for competence. The competence represents the generalized ability of an individual to interact or transact effectively with the environment. Perceived self-efficacy is a more specific concept that refers to individuals' convictions that they can successfully execute the required behavior necessary to produce a desire outcome. Chen (2004) stated that perceived self efficacy influences the treatment for improving and curing urinary incontinence (UI) of postpartum mothers. Behavioral modifications are recommended as the first option for treating UI. Pelvic floor muscle exercises are one of the behavioral modifications and have proved to be effective. Khorsandi et al. (2008) stated that self-efficacy for childbirth is a factor in women's decisions about her choice of delivery and an essential key in coping with labor pain.

Hinton and Olson (2001) examined the relationship between psychological characteristics and changes in exercise and food intake of women during the first year

of postpartum. The results showed that higher exercise self-efficacy and having the intention to exercise were associated with more frequent exercise. There have been suggestions that interventions aimed to help women get regular exercises and make appropriate reductions in food intake during the postpartum period should focus on self-efficacy specific to the targeted behaviors. For example, dieticians may strengthen exercise self-efficacy by providing postpartum women with mastery experiences of setting realistic exercise goals. Likewise, dieticians can focus on food intake self-efficacy by modeling strategies that women can use to avoid overeating in stressful situations. Ford and colleagues (2001) examined changes in self-concept and self-efficacy during the childbearing year among adolescent mothers who were involved in a behavioral intervention. It was combined with a peer-centered, mastery modeling intervention designed to increase self-efficacy, improve self-concept, and improve long-and short-term perinatal outcomes. The results revealed that self-efficacy within both the experimental and control groups changed significantly for labor and delivery, but decreased in infant care. Professional and peer interactions were equally associated in intervention and non-intervention groups with regard to self-efficacy. Klankhajhon (2008) studied the relationships among personal factors, perceived benefits of exercise, perceived barriers to exercise, perceived self-efficacy of exercise, and the exercise behaviors of pregnant women. The results showed that pregnant women had moderate exercise behavior, but low perceived self-efficacy of exercise. The author explained that the women fear for their fetus and their own situations, or have insufficient health information about exercise, or the women may have never seen other women exercising during pregnancy.

Empirical findings from these studies indicate inconsistent results. However, the studies were limited in their examination of the influence of perceived self-efficacy on HPBs and its interaction with the predictors of perceived health status in postpartum women. This present study will provide additional knowledge of the relationships between perceived self-efficacy, perceived health status, and HPBs among Bangladeshi postpartum women. This could be useful for developing appropriate interventions to promote healthy postpartum women.

4.1 Factors Related to the Perceived Self-Efficacy

In a related review, it can be seen the importance of the concept of self-efficacy has been seen in many illnesses and the effect of the level of self-efficacy on treatment and quality of life, such as, in cancer patients. Research results have shown that an increase in the level of self-efficacy has a positive effect on health behaviors, symptom control, compliance with cancer treatment, and quality of life (Cunningham et al., 1991; Lev, 1997; Lev et al., 2001). In addition, there are different results regarding self-efficacy and age in the literature (Lam and Fielding, 2007; Lev et al., 1999; Merluzzi et al., 2001; Porter et al., 2002). Moreover, Akin, Can, Durna, and Aydiner (2008) revealed the quality of life and self-efficacy were influenced by personal and medical characteristics. Consistent with the results of some studies (Lam and Fielding, 2007; Merluzzi et al., 2001; Porter et al., 2002), there was a positive relationship between self-efficacy perception and educational level.

Similar to the study by Lam and Fielding (2007), the level of self-efficacy of women in their study who were housewives was lower than those who were retired or employed. In the analysis of the study results it was seen that women who were housewives were less able in maintaining self-care behaviors and needed support in

this area. The housewives also reported more physical symptoms during chemotherapy than the retired women.

5. Relationships between Perceived Health Status, Perceived Self-Efficacy, and HPBs

Health promoting behaviors are very important for postpartum women to perform in their daily lives in order to maintain their own health. Good HPBs can reduce women's health problems, control and prevent complications, and decrease maternal mortality rates. Pender suggests that health promotion should be practiced by healthy individuals seeking to achieve well-being or to enhance their well-being (Chen et al., 2005). Thus, increased understanding of HPBs and greater efforts toward promoting healthy behaviors and well-being among postpartum women are desirable. Therefore, the nursing and related literature concerned with empirical findings that support the linkages between perceived health status, perceived self-efficacy, and HPBs will now be considered.

5.1 Relationships between Perceived Health Status and HPBs

A previous study found that perceived health status was significantly correlated to the HPBs. Suwonnaroop (1999) explored the effects of personal factors (age, gender, race, education, and income), on perceived health status and social support for HPBs in 121 older adults. The results found that perceived health status and social support are significant predictors of HPBs. Thirty one percent of the variance for the total health promoting lifestyle profile two (HPLP-II) was explained by age, gender, race, education, income, self assessed health status, number of chronic illnesses and social support. Three (race, education, social support) independent

variables were strong predictors, accounting for the greatest amount of variance (p = .06).

A similar study by Sriyuktasuth (2002) found that perceived health status affects the HPBs. Leetheeragul (1998) studied the health perception and HPBs of 120 pregnant women with hepatitis B carrier. The results showed good levels of health perception and rather good levels of HPBs in this group of women. Another study explored the relationship between health perceptions and health maintenance behaviors in primigravida women. The samples were 107 normal pregnant women. The results revealed that there was a positive relationship between general health perception and health maintenance behaviors with a statistical significance at the level of .001 (Painmongkol, 1994).

Chen and colleagues (2007) examined the levels of engagement in HPBs and related factors among postpartum women in Taiwan. The results showed that the average overall Health Promotion Lifestyle Profile score was low, with exercise rated lowest among the six subscales. Postpartum women perceived that they had high levels of social support from their mothers in law, mothers and husbands. Social support was found to predict all subscales significantly except exercise. This study highlighted the implications of social support to nursing practice, especially amongst Chinese who have strict rituals during a women's postpartum period.

5.2 Relationship between Perceived Self-Efficacy and HPBs

A previous study found that perceived self-efficacy was significantly correlated to HPBs. Bandura, Caprara, Barbaranellu, Gerbino, and Pastorelli (2003) explained that self-efficacy is a belief one can successfully engage in promoting an expected health behavior. Self-efficacy can adapt the situation and perceived self-

efficacy to manage these basic affective states. Self-efficacy contributes uniquely to empower the HPBs and manages significantly to reduce morbidity. This is supported by the study of Hausenblas and colleagues (2008) who developed and evaluated a personally-tailored multimedia CD-ROM for improving exercise behavior, including physical activity and related outcomes, with postpartum women. The results revealed that the experimental group had significant increases in self-efficacy and knowledge. Similarly, Farrell (2008) studied the impact of a chronic disease self management program (CDSMP) on perceived health status for underserved rural clients. The results showed that significant improvements were noted in self-efficacy, health management behaviors, perceived health status, and healthcare utilizations.

Chaivisat (1998) studied the relationships of perceived self-efficacy and perceived health status with the health behaviors of adolescent primigravida. The purpose of this study was to investigate the relationships of perceived self-efficacy and perceived health status with health behaviors of adolescent primigravida. The results revealed that the relationships between perceived self-efficacy and health behaviors were significantly positive (r = .69. p = < .001), and the relationships between perceived health status and health behaviors were significantly negative (r =. - 22, p = .05). However, perceived self-efficacy and family type appeared as a predictor of health behaviors. Jackson, Tucker, & Hermon (2007) found significant positive relationships between self-efficacy and HPBs among college students.

5.3 Relationship between Perceived Health Status and Perceived Self-Efficacy

According to the health promotion model, perceived self-efficacy is the central construct part of the health promotion model and perceived health status is a personal factor that is directly influenced by the perceived self-efficacy towards

HPBs. Sriyuktasuth (2002) studied the health promoting behaviors in Thai women with systemic lupus with erythematosus. The study revealed that perceived health status was significantly correlated to the perceived self-efficacy (r = .476, p < .001). Sarkar, Ali, and Whooley (2007) found that among outpatients with stable coronary heart disease, low cardiac self-efficacy is associated with poor health status. In addition, Brekke, Hjortdahl, and Kvien (2001) showed that patient with rheumatoid arthritis, the baseline levels of self-efficacy for pain and other symptoms seem to influence 2-year changes in health status measures.

Taken all together, HPBs are most important to preventing disease and maintaining the health of postpartum women. The above discussion indicated that several studies found that perceived heath status and perceived self-efficacy significantly correlate with the HPBs. Therefore, HPBs could make a major contribution to positive outcomes in terms of maternal health. This is important because maternal mortality and morbidity still remain a major issue in developing countries, including Bangladesh, and most of them occur after childbirth.

Summary

From the literature review, it can be seen that postpartum care in Bangladesh is still well below any acceptable standard. The body of evidence strongly suggests that the behavioral pattern of living or lifestyles significantly affect the degree of health and longevity enjoyed by a person in her lifetime. Therefore, HPBs are important and essential for postpartum women. A woman who enjoys well-being will depend upon their own HPBs. Based on Pender's HPM; there are six dimensions of

HPBs including health responsibility, physical activity, nutritional management, interpersonal relationship, spiritual growth, and stress management. The studies have revealed that some of the factors which influence the HPBs are: demographic factors; cognitive-perceptual factors; and social support. The perceived health status is an important predicting factor, whereas, perceived self-efficacy has a strong direct influence on HPBs. Previous studies have already explored HPBs in relation to these variables in many countries. However, there have been too few research studies related to HPBs in Bangladeshi postpartum women. This suggests that there is need to study HPBs in Bangladesh, and to determine which study variables can explain the likelihood that postpartum women will engage in HPBs. A better understanding of HPBs, and the related factors of perceived health status and perceived self-efficacy, may lead to more effective health promotion aimed at maximizing the health potential of Bangladeshi postpartum women.

CHAPTER 3

RESEARCH METHODOLOGY

This study used a descriptive correlational design. This chapter describes the research methodology including population and setting, sample and sampling, instrumentation, ethical considerations, data collection procedures, and the data analysis of the study.

Population and Setting

The target population in this study was Bangladeshi postpartum women after normal vaginal delivery within two months of delivery. They came to the EPI center for receiving immunization for their baby. The study was conducted at Chittagong Medical College Hospital, a teaching hospital which is the largest hospital in the central part of Chittagong, the second largest city of Bangladesh which is located in south east geographical zone. A large number of women give birth in this hospital with an average monthly of 400 cases of normal labor (from medical records in the first trimester of the year 2009). These women use the services at the EPI center for child immunization. Thus this hospital is a representative setting for getting eligible samples of the target population for this study.

Sample and Sampling

A purposive sampling method was used for recruiting postpartum women who

met the following inclusion criteria: be a primiparous mother, having delivered a single, healthy term baby without complications during birth and in the postpartum period.

Sample size estimation

The sample size of the study was estimated by using power analysis. The accepted minimum level of significance (α) to estimate the number of the sample size was .05 with a power (1-β) of .80 and the effect size was .30. This value of α and 1-β would be a conventional standard for most nursing studies (Polit & Beck, 2008: p. 605). Even though at least 88 samples were needed there were 120 samples willing to participate in the study. In view of the possibility of dropouts from the sample, all participants were recruited.

Instrumentation

Instruments

The instruments of this study consisted of four parts: 1) a Demographic Data Form; 2) a Perceived Health Status Questionnaire; 3) a Perceived Self-Efficacy Questionnaire; and 4) a Health Promoting Behavior Questionnaire.

Part 1: The Demographic Data

The Demographic Data Form was developed by the researcher for collecting the following information about the participants: age; religion; level of education; occupation; family income per month; residential area; delivery place; birth information; and method of feeding the baby. They were 14 items (Appendix B).

Part 2: Perceived Health Status Questionnaire (PHSQ)

The PHSQ consisted of the mother's perception of their own health in the postpartum period (Appendix B). It was developed by the researcher based on previous literature (Health Status Questionnaire, 2009; Suwonnaroop, 1999; Walton-Moss, McIntosh, Conrad, & Kiefer, 2009). This scale was composed of two parts: (a) physical health; and (b) mental health. A five-point Likert-scale was used, that scored 15 items from 1 (strongly disagree) to 5 (strongly agree). The item numbers 1-4, 7, 11, 13-15 required positive responses, whereas, the item numbers 5, 6, 8, 9, 10 and 12 required negative response. The score for the negative items were reversed for summing up the total score. The total score ranged from 15 – 75. The range of scores was divided into three levels, using Keiss's (1996) cut off points: 15 – 35 = poor; 35.1 – 55.1 = fair; and 55.2 – 75 = good perceived health status.

Part 3: Perceived Self-Efficacy Questionnaire (PSEQ)

The PSEQ was developed by the researcher based on related literature (Chen, 2004; Dougherty, Johnston, & Thompson, 2009; Pender, et al., 2006). It was comprised of 47 items of self-efficacy expectations and outcome expectations for the particular actions of postpartum women related to the six subscales of the HPBs (Appendix B). The scoring used a five-point Likert-scale from 1 (strongly disagree) to 5 (strongly agree). The total score ranged from 47 – 235. The range of total scores was divided into three levels by using Keiss's (1996) cut off points: 47 – 109.66 = low; 109.67 – 172.33 = moderate; and 172.34 – 235 = high levels of perceived self-efficacy.

Part 4: Health Promoting Behavior Questionnaire (HPBQ)

The HPBQ was developed by the researcher based on the HPM and previous

literature (Suwonnaroop 1999; Thanomroop, 2000; Sriyuktasuth, 2002; Lee & Loke, 2005; Chen et al., 2007). It comprised of activities performed by postpartum women related to the HPBs and its six subscales. They were 38 items consisting of: a) health responsibility (6 items);; b) physical activity (5 items); c) nutritional management (6 items); d) spiritual growth (7 items); e) interpersonal relationships (7 items); and f) stress management (7 items) (Appendix B). It used a four-point Likert-scale for the frequency of performing each activity. Scores ranged from 1 (never) to 4 (routinely), and the total score ranged from 38 – 152. The range of scores was divided into three levels by using Keiss's (1996) cut off points: 38 – 76 = poor; 76.1 – 114.1 = fair; and 114.2 – 152 = good performing of health behaviors.

Validity and Reliability of the Instruments

Validity of the Instruments

The validity of the instruments was examined by three experts. The first was an expert in midwifery nursing, and the second was an expert in family and community health nursing, both at the Faculty of Nursing, Prince of Songkla University, Hat Yai, Thailand. The third was an obstetrician in Bangladesh. The investigator modified the instruments based on experts' recommendations, then the instruments were translated into the Bengali version by three bilingual translators in Bangladesh.

Reliability of the Instrument

The reliability of the instruments used for the actual sample in this study was

tested by using Cronbach's alpha coefficient. The internal consistency of each instrument was the PHSQ - .91; the PSEQ - .97; and the HPBQ was .94.

Translation of the Instrument

In this study, all questionnaires were translated using the back translation technique (Sperder & Develis, 1994). The questionnaires were initially developed as an English version and translated into the Bengali language by using the following steps.

1. The first bilingual translator translated the English version into the Bengali version.

2. The second bilingual translator translated the instruments from the Bengali version into the English version.

3. The third bilingual translator then, clarified and identified the differences in all items of both versions. Modifications were needed in order to establish the same meaning within acceptable limits.

Ethical Considerations

The study was conducted with the intention of protecting the human rights of the subjects following approval by the Institutional Review Board of Faculty of Nursing, Prince of Songkla University, Thailand, and the Directorate of Nursing Services in Bangladesh. Permission for data collection was obtained from the Director of Chittagong Medical College Hospital, Chittagong, Bangladesh. The subjects who

were willing to participate in this study were asked to sign a consent form. They were assured that they had the right to refuse to participate in the study at any time. The identities of all subjects were coded in order to keep confidentiality and anonymity.

Data Collection Procedures

The data collection procedures were divided into the preparation phase and the implementing phase

1. Preparation Phase:

1.1 The researcher submitted a letter from Faculty of Nursing, Prince of Songkla University, Hat Yai, Thailand to ask for permission to collect data. She also informed the director of Chittagong Medical College Hospital, Chittagong, Bangladesh about the objectives of the study and the data collection procedures.

1.2 The nursing superintendent and head nurse of EPI center were informed the objectives of the study.

2. Implementation Phase:

2.1 The subjects who met the inclusion criteria were selected, approached, and asked to participate in the study. The subjects were informed about the objectives of the study and the subjects' rights. Detailed information about the study was given to the participant before obtaining the consent to participate. Both verbal and written consent were obtained before the interview.

2.2 The data were collected by face to face interviews, using a structured questionnaire for the participants, who were unable to read and write. However, if they were able to read and write in the Bengali language, they were allowed to write

the answers on the questionnaires given out by the researcher. If the participants could not understand questions, the researcher explained and clarified them and gave more information, and collected the questionnaire after they were finished. Data were collected at a private place, between 8.00 am to 2.00 pm each official day (6 days in a week). The time spent for interviews with each client was not more than half an hour. After completing the questionnaires, the researcher thanked the respondents for spending time to participate in the study.

Data Analysis

Data were analyzed by using both descriptive and inferential statistics. Descriptive statistics were used to describe the subjects' demographic characteristics, and the levels of perceived health status, perceived self-efficacy, and health promoting behaviors of postpartum women in terms of frequencies, percentages, means, and standard deviations.

Pearson's product moment correlation coefficients were used to examine the relationship between perceived health status, perceived self efficacy, and HPBs. Initially the researcher tested the assumption for Pearson's product moment correlation coefficient. This revealed that the perceived health status, perceived self-efficacy, and HPBs were not normally distributed. The researcher then used Spearmen's correlation coefficient (rho) to determine the relationship between perceived health status, perceived self-efficacy, and HPBs.

CHAPTER 4

RESULTS AND DISCUSSION

In this chapter, the study findings are presented and discussed. The findings are presented in three parts, and conclude with a discussion as follows.

1. Demographic characteristics of postpartum women.

2. Levels of perceived health status, perceived self-efficacy, and HPBs of postpartum women.

3. Relationships between perceived health status, perceived self-efficacy, and HPBs of postpartum women.

Results

Demographic Characteristics of Postpartum Women

Table 1 illustrates the demographic characteristics of the 120 postpartum women who participated in the study. The mean age of the sample was 24.81 years (SD = 3.97). The majority was Muslim (70%). About 55.8% had an educational background of college/ university, and 25.8% completed their high school education. There were 53.3% housewives, and 18.4% private employees. Nearly half of them had an income equal to or less than 10,000 Taka per month (70 Taka equal to 1 US$). Most of them (87.5%) lived in urban areas, and more than half lived with their relatives. A majority of the postpartum women (68.4%) spent less than half an hour travelling from their residence to the hospital to receive care. About 87.6% of them had had antenatal check-ups four or more times, 54.2% delivered in a private hospital,

and 71.7% of them had a baby with a weight at birth ranging from 2,500 – 4,000 grams. The majority of them were delivered by a doctor (83.3%). Almost all the women (87.5%) provided exclusive breastfeeding.

Table 1

Frequency, Percentage, Mean, Standard Deviation, Minimum and Maximum of Subjects' Demographic Characteristics (N=120)

Demographic Characteristics	n	%
Age (years) (M = 24.81, SD = 3.97, Min –Max = 16 - 35)		
< 20 years	17	14.2
20 -25 years	56	46.6
26 – 35 years	47	39.2
Religion		
Muslim	84	70.0
Hindu	36	30.0
Level of education		
No formal education	2	1.7
Primary school	6	5.0
High school	31	25.8
College/University	67	55.8
Other	14	11.7
Occupation		
None	8	6.7
Housewife	64	53.3
Private employee	22	18.3
Government employee	7	5.9
Other	19	15.8

Table 1 *(Continued)*

Demographic Characteristics	n	%
Income per month (M = 22058.33 Taka, approximately US$, 315, SD = 19112.80, Min –Max = 2,000.00–100,000.00 Taka)		
Less than or equal 10,000 Taka	49	40.8
10,001 – 30,000 Taka	42	35.0
30,001 – 50,000 Taka	24	20.0
More than 50,000 Taka	5	4.2
Distance from hospital to residence		
<1/2 an hour	76	63.3
½ an hour to 1 hour	33	27.5
> 1 hour to 2 hour	11	9.2
Place of living		
Urban	105	87.5
Rural	15	12.5
Living with		
Alone	1	0.8
With spouse	37	30.9
With relatives	82	68.3
Number of antenatal check-ups		
None	1	0.8
One	2	1.7
Two	5	4.2
Three	7	5.8
Equal four or more	105	87.5
Place of giving birth		
Hospital	46	38.3
Clinic	65	54.2
Home	9	7.5

Table 1 *(Continued)*

Demographic Characteristics	n	%
Baby weight at birth (M = 2,967 grams, SD = .53, Min – Max = 1,800 – 5,000 grams)		
< 2,500 grams	28	23.3
2,500 - 4,000 grams	86	71.7
> 4,000 grams	6	5.0
Healthcare provider who delivered the baby		
Midwife/Nurse	13	10.8
Doctor	100	83.3
* TBA/SBA	5	4.2
Relatives	2	1.7
Type of baby feeding during postpartum period		
Exclusive breast feeding	105	87.5
Breast feed with pot milk	15	12.5
Baby gender		
Male	66	55.0
Female	54	45.0

Note: * TBA is Traditional Birth Attendant, SBA is Skilled Birth Attendant, and Relative is her own mother, mother in law, or the female neighbor

Table 2 shows that the levels of perceived health status including its subscale; physical health and mental health were good. The level of perceived self-efficacy including its subscales of self-efficacy expectations and outcome expectations were also high. Most overall HPBs scores and its dimensions were at good levels: health responsibility, nutritional management, spiritual growth, interpersonal relationship, and stress management. However, physical activity was at fair level.

Table 2

Minimum–Maximum, Mean, Standard Deviation and Level of Perceived Health Status, Perceived Self-Efficacy and HPBs (N = 120)

Variables	Min. – Max.	M	SD	Level
Perceived health status	32 – 75	64.07	9.92	good
- Physical health	16 – 40	32.96	5.85	good
- Mental health	16 – 35	31.12	4.77	good
Perceived self-efficacy	155 – 235	209.83	20.24	high
- Efficacy expectation	73 – 115	103.01	9.77	high
- Outcome expectation	81 – 120	106.81	11.14	high
HPBs	94 – 151	133.66	14.06	good
- Health responsibility	12 – 24	22.07	2.67	good
- Physical activity	12 – 20	15.60	1.79	fair
- Nutritional management	12 – 24	21.13	3.01	good
- Spiritual growth	18 – 28	25.67	2.71	good
- Interpersonal relationship	14 – 28	25.30	3.11	good
- Stress management	14 – 28	23.86	3.80	good

Table 3 shows the relationships between perceived health status, perceived self-efficacy and the HPBs of Bangladeshi postpartum women. Following Munro (2001: pp. 233-234), the strength of the correlation coefficient were categorized as .50 – .69 as moderate and .70 – .89 as a high correlation between the variables. Thus, perceived health status had a significantly positive moderate correlation with perceived self-efficacy (r = .68, p < .01), and with HPBs (r = .61, p < .01). However perceived self-efficacy had significantly positive high correlation with HPBs (r = .83, p < .01).

Table 3

Correlation between Perceived Health Status, Perceived Self-Efficacy and Health Promoting Behaviors (N = 120)

Variables	1	2	3
1. Perceived health status	1		
2. Perceived self-efficacy	.68**	1	
3. Health promoting behaviors	.61**	.83**	1

** p < .01

Discussion

The following discussion focuses on the findings derived from the study in relation to the sample's characteristics, levels of perceived health status, perceived

self-efficacy, HPBs, and the relationships between perceived health status, perceived self-efficacy, and the HPBs of Bangladeshi postpartum women.

Sample's Characteristics

According to the HPM (Pender et al., 2006), modifying factors are variables that impact on the decision making process by influencing individual perceptions. These variables involve demographic factors, such as, age, education, and income. Thus the characteristics of the subjects in the sample (see Table 2) might be the influencing factors on the variables of perceived health status, perceived self-efficacy, and HPBs in the study for the following reasons.

Age: The findings found that most of the postpartum women's age was 20 – 25 years old (46.7%), and 26 – 35 years old (39.2%). When combined together they were composed largely of mature adults. Older women probably have more experience, more ability to think, critique, and make decisions (Lazarus & Folkman, 2000). This group of participant should have high responsibility towards their health, understand the plans of treatment easily, concern be concerned about their health and give high cooperation with healthcare providers (Lambert & Lambert, as cited in Thanomroop, 2000). This is in line with a study of Kaleta and colleagues (2009) who found that age was one of the factors affecting self-perception of health in an adult population in Poland. Older people may perceive their health as worse than young ones due to the presence of chronic diseases and physical conditions which are more often present in older age groups (Kaleta et al., 2009). Hence, age might influence the perceived health status in postpartum women.

The maturity, both physical and psychological, of the participant in this study would have given them better flexibility and adjustment during situations such as in the postpartum period. They have good awareness, they learn from experience, perceive the benefits of action and show physical and psychological readiness. A person who has an adequate perception of their own abilities would be able to cope with challenging situations more effectively. When they try to do something in their situation and achieve the expected outcome, they will be motivated and their self-efficacy will strengthen (Bandura, 1992). Thus, age in combination with the motivational mechanisms of cognitive processes, ensured the postpartum women in the current study had high levels of perceived self-efficacy.

Age is a biological factor which is related to experiences in the past and influences health promoting behaviors (Pender et al., 2006). Several studies show positive relationships between age and behavior. For example, the study by Bagwell & Bush (2002) found that older blue-collar workers scored significantly higher on nutrition in HPBs. Younger workers scored significantly higher on exercise. Older workers had higher scores on role performance and self-actualization than younger workers.

This is in accord with the study of Klankhajhon (2008) who found that age was positively correlated with exercise behaviors in pregnant women. The older the pregnant women were, the more exercise behaviors they reported. The sample in this study were at the reproductive age at which they were physically, emotionally, socially, and economically ready to have babies. Thus, they could adjust themselves to physical and psychological changes as they realized the importance of good health better than pregnant women at a younger age. Women at this age also have more

access to health services. They are more attentive and motivated to improve their health because pregnancy at older ages has a higher risk of mishaps. Leetheeragul (1998) found that health perceptions and age were able to predict of the variance of HPBs in pregnant hepatitis B carriers ($p < .05$). However, some studies have shown an inverse relationship between age and behavior. Thus Panyapisit's study (2002) found that age had no correlation with HPBs during pregnancy of women who had experienced premature labor ($p < .05$).

Education: The findings showed that more than half of the subjects had a college/university level of education (55.8%). Education can influence the maturation of thought processes through knowledge. Knowledge is an important aspect of the cognitive dimension and can affect the subject's perceptions about health. Highly educated people can easily perceive and understand such information unlike less educated ones (Ruth, as cited in Thanomroop, 2000). According to the HPM education is an important factor for making decisions, understanding information regarding how to take care of themselves, and the importance of doing so, and the positive outcomes from doing so. These may come about through discussion with the healthcare professionals, attending health-education programs, or reading, watching television, and accessing other media.

Educated women may bring that information into their cognitive process, interpret, understand, and then believe in that information (Sriyuktasuth, 2002). The association between educational levels and perceived health status is widely supported in several studies. Kaleta and colleagues (2009) evaluated the subjective health status of the Łódź adult population to determine the factors affecting their self-perceptions of health. The results revealed that people with lower educational levels perceived

their health as worse compare to those with university diplomas. People with lower levels of education may represent the group with higher prevalence of risk factors for chronic disease, such as, smoking, drinking alcohol, lack of physical activity and others which can be responsible for poor health perceptions. Therefore, education is another influencing factor that impacts on perceived health status.

In addition, it is believed that education is one of the personal socio-cultural factors which have a direct influence on both behaviors specific cognitions and affect and behavioral outcomes (Pender et al., 2002). Therefore, more highly educated people are able to recognize and understand more about what they learn and understand what happens to them better than less educated people (Pender, 1996). This is similar to the results of the study by Akin and colleague (2008). They found there was a positive relationship between self-efficacy perceptions of Turkish breast cancer patients undergoing chemotherapy and their educational levels. That points out the need to support Turkish breast cancer patients who have low educational levels to help them improve their levels of self-efficacy. A high self-efficacy perception increases a cancer patient's adaptation to the disease, improves the quality of life and decreases psychological problems (Lam & Fielding, 2007; Lev & Owen, 2000).

Education is a personal factor that might also contribute to HPBs. Women with more years of education may have more skills than those with less years of education and will seek useful health information, understand that information, and utilize facilities for promoting health. They may also have more opportunities than women with low education to participate in health behaviors (Sriyuktasuth, 2002). Thus, the postpartum women with high education levels may be more likely to report higher health promoting activities. This finding is supported by Haque (2009) who

found that the education level is the most significant determinant for increasing utilization of antenatal care by married adolescent women. They also sought delivered at a health facility, and looked for assistance for delivery and postnatal care. These findings are in accord with the study by Chowdhury and colleagues (2007). They established that education had a positive association with Bangladeshi mothers, who had some pregnancy related complications, in seeking healthcare from health professionals. Therefore, in the current study, education may be a factor that contributes to the HPBs of postpartum women.

Family income: The subjects with incomes of 10,001 – 30,000 Taka (5,000 – 15,000 Thai Baht) and of 30,001 – 50,000 Taka (15,000 – 25,000 Thai Baht) were compared. The results show that more than half of the subjects who had better socioeconomic status had access to better facilities this gave them the opportunity to acquire and maintain better health and well-being. Research consistently demonstrates that people with a higher socioeconomic status have better health than those with lower socioeconomic status. People with lower socioeconomic status are more likely to have worse access to healthcare, have less healthy and more risky behaviors, have weaker social support, experience more stress, and live in less healthy social and environments (Robert, 2002). In the present study postpartum a woman who had better economic status may be more likely to report a higher perceived health status.

Since income usually signifies socioeconomic status, a higher income means higher capability to search for health benefits and get access to better health services (Kantharaksa, 1984). Consequently, accomplishing performances through actual experience of mastery are the most powerful sources of information about self-efficacy (Bandura, 1982). This is supported by Sriyuktasuth (2002) who found that

income was positive related to perceived self-efficacy among Thai women with SLE. Therefore, income is one of the factors influencing the perceived self-efficacy.

Moreover, family income or economic status is a basic need in any healthcare system. It is good resource for the utilization of health services. Several studies found that HPBs are associated with family income. Sriyuktasuth (2002) found that income is directly and indirectly associated to self-efficacy and its association with HPBs among Thai women with SLE. This is similar to the study of Lin et al. (2009) that found that southern Taiwan's pregnant women with better financial conditions have greater capacity for enjoying health promoting lifestyles. The current study's findings are also in accord with the study by Chowdhury and colleagues (2007) that showed that increased income has a positive effect on the utilization of modern healthcare services. Uzma et al. (1999) studied a community based sample of 122 postpartum women from an urban slum in Dhaka, Bangladesh. It was found that the low status of women in general, and in slum communities in particular, were severe impediments to bringing about improvements in their overall health. The study demonstrated that the health of the study mothers was very poor, because of severe economic, environmental and social deprivation. Access to healthcare of any sort is very difficult for such women for a combination of economic and cultural reasons. In addition, Chen et al. (2005) studied health related behavior and adolescent mothers. They found that those with high school education, who were employed, married and received parental economic support, had better health-related behaviors.

Antenatal care (ANC): The subjects were women who came to the ANC for checkups four or more times (87.5%). According to the HPM (Pender, et al., 2006), prior related behavior includes frequency of familiar or the same behavior in the past

that may relate to present behavior. Visiting the ANC regularly showed concern about their health and motivated them to engage in HPBs in order to enhance their health. They could receive more information about all aspects of HPBs from nurses and physicians to enhance their health. They were able to pick up additional knowledge from antenatal care which might give them better understanding about self-care. This, in turn, leads them to increased practice of HPBs. In addition, routine antenatal visits and care may raise awareness about the need for care at delivery and in the postpartum period. It may give women and their families a familiarity with health facilities that enables them to seek care more efficiently during a crisis. It was reported by Thanomroop (2000) that HPBs are at a rather good level among pregnant women who attend ANCs. Thus visiting ANCs might influence perceived health status, perceived self-efficacy, and health promoting behaviors in the postpartum period.

Residence: Residence and the distance from the home to the hospital is another factor. Mostly of participants in the present study they lived in an urban area (87.5%) with travel time to the hospital of less than half an hour (63.3%). Therefore, they could easily access to healthcare services if needed. Pender et al. (2002) stated that situational influences on HPBs include perception of options available, demand characteristics, and the aesthetics of the environment in which a given behavior is proposed to take place. Individuals are drawn to and perform more competently in situations or environmental contexts in which they feel compatible rather than incompatible, related rather than alienated, safe and reassured rather than unsafe and threatened. The study by Haque (2009) indicated that the place of residence is the significant determinant for antenatal care. Chowdhury et al. (2007) noted that almost

three-quarters of the women had a rural residence and three-fifths of the women did not go for any antenatal care. The majority of them reported the absence of any healthcare facility nearby. Convenient and easy to access in urban areas and the short time spent going to healthcare services impact on the perception of postpartum women related to health status, self-efficacy, and performing of HPBs.

Social support: Most postpartum women in this study lived with their spouses (30.8%) and lived with their relatives or significant others, including their fathers, mothers, husband, and other relatives (68.3%). They received love, attention, support and concern from their families both as instrumental and mental support. Thus the family seems to be a resource, which increases and enhance motivation as well as promoting desire to improve their health in its various aspects. These findings are consistent with the findings of a relationship between social support and health status during the stressful prenatal period (Greenberg, Robinson, & Ragozin; Maguire, as cited in Hung, 2004).

In making self-efficacy judgments, the sources of self-efficacy information are identified as follows: (a) performance accomplishments (previous experience with the specific behavior); (b) vicarious experience (previous observation of the performance of the specific behavior); (c) verbal persuasion (encouragement of influential others); and (d) physiological responses (somatic reactions in relation to autonomic arousal during anticipation or experience of a potentially stressful event) (Bandura, 1997). For example, a mother determines her capability to breastfeed her new infant in accord with whether she has breastfed an infant previously, observed successful breastfeeding by others, and received encouragement from significant others to breastfeed. In addition, her current physiological state, including fatigue, pain, and

anxiety, is an important source of information through which she evaluates her ability to breastfeed (Dennis, 2003). Therefore, the evidence from the related literature mentioned above indicates that support from family members, friends, and healthcare providers in the current study influenced postpartum women's perceived self-efficacy.

Following Pender's HPM (2006) ideas on the interpersonal influence of social support, it is known that the extent and nature of one's social relationships affect one's health. Social support can be defined as a network of interpersonal relationships that provide companionship, assistance, and emotional nourishment. This can be supported by Bahadoran and colleague (2008) study findings that there was a significant direct relationship between the total social support and the postpartum physical health of women in 296 mothers 6 – 7 weeks after delivery at health centers at Isfahan, Iran. Healthy behavior, especially when accompanied by a healthy lifestyle, can lead to better health, improved functions and a better quality of life. This is so in all stages of life and social support is an important factor in this which affects healthy behaviors.

Taken all together, it is concluded that the personal factors including age, education level, monthly family income, ANC visiting, residence, time spent travelling from the residence to the hospital, and social support all influenced perceived health status, perceived self-efficacy, and HPBs in postpartum women in the current study. This means that good levels of perceived health status indicated good health in postpartum women. The high levels of perceived self-efficacy indicated that they were more confident about accomplishing particular behaviors. The good level of HPBs indicated that they were routinely engage in healthy behaviors during the postpartum period.

Level of Perceived Health Status

The sample's perceived health status scores were at high level and ranged from 32 – 75 with an average score of 64.07. It was composed of physical and mental health scores with average scores of 32.96, and 31.12. The findings showed that the participants strongly agreed on the top three highest scores of the physical health as follows: "I feel better than in the last 1½ or 2 months (70.0%)"; "I am as healthy as other postpartum mothers" (70.0%); and "I am healthy now" (63.3%). The subscales of mental health were, "I feel that I am a happy person" (70.8%), "I feel my life is purposeful" (67.5%), and "My physical and emotional health problem does not interfere with my normal social activities" (66.7%).

The explanation for the above may be that most of the samples were in the reproductive ages 20 – 35 years old. They could take care of themselves and they could maintain the high level of intellectual functioning that the educated take to an advanced age. They pursued intellectual activities, were flexible and satisfied with their accomplishments in life, and maintained lifestyles that preserved their health (Bandura, 1997). Other factors may be that the family income, as stated previously, indicated that they had an adequate income for family expenses each month. Even though 60% of the subjects were unemployed, they had the resource of financial support from their family incomes (from their spouses, or relatives) plus emotional support from them and tangible resources. If women have relatives or friends to whom they can turn in times of need, the burden of familial obligations can be shared. This ultimately affects general mental health and it improves their mental health.

In general, new mothers report personal stress, increased responsibility and lack of freedom (Affonso, 1999; Gjerdingen & Chaloner, 1994; McVeigh, 2000), fatigue, and physical discomfort during the early postpartum period (Fishbein & Buggraf, 1998). This corresponds with the study by Schytt, Lindmark, and Waldenström (2005). They found that tiredness, headache, and pain in the neck, shoulder, and lower back, were common problems at two months as well as one year after birth in Swedish women. Low self-rated health was associated with symptoms that affected general physical functioning and wellbeing, such as tiredness, headache, musculoskeletal problems, mastitis, perineal pain, dysuria, stomach ache, and nausea. However, after giving birth, the mother is at the beginning of a process of becoming a mother, and this involves a transition that includes contradictions, tensions, and transformations that may all produce anxiety (Sethi, 1997). A mother's confidence improves and anxiety lessens in relation to the baby as the postpartum period progresses. This may be associated with decreased demands from the baby so that the mother can obtain more rest and sleep (Barclay, et al., 1997).

Furthermore, the postpartum changes might also be considered as the normal consequences of childbirth and something that a woman must endure (Thaddeus & Nangalia, 2004). Additionally, the unacceptability of postpartum depression in some cultures can preclude women from acknowledging mental health concerns (Posmontier & Horowitz, 2004). Thus, this might have led the participants to perceive less obstacles in implementing HPBs. The following were the lowest scores for physical health; "My health problems stop me from doing things I want to do" (0.0%); "I have limitations to do some activities, such as cleaning rooms, clothes" (0.0%); and "I feel I am tired" (0.8%). The lowest three scores of the mental health

items were: “I have felt so down that nothing could cheer me up” (0.0%); “I have been feeling as a nervous person”; (0.0%), and “I feel blue” (1.7%). As a consequence, postpartum women in the current study may have been more likely to engage in the HPBs to enhance both their physical and mental health, which in turn impacts on the perceived health status at a high level.

Level of Perceived Self-Efficacy

The sample’s perceived self-efficacy scores at high level ranged from 155 – 235, with an average of 209.83. For the subscales of self-efficacy expectations the score was 73 – 115 with an average of 103.01‘ For the outcome expectations the score was 81 – 120 with an average of 106.81. Considering each of the topics, the top three highest scores for self-efficacy expectations were: “I am sure I can take my baby to a doctor for checkups or receiving the immunization 1½ months after birth” (97.5%); “I am confident to feel connected with some force greater than myself” (96.7%); and “I believe I can accept the reality of postpartum physical or emotional changes which I did not expect before” (83.3%). These three highest scores were consistent with the top three highest scores of the outcome expectations which were: “I am sure that taking baby for checkups or receiving the immunization 1½ months after birth can make my baby have a normal growth and development” (88.3%); “I believe that taking some time for relaxation helps me to have plenty of energy to care for my health needs” (79.2%); and “I am sure that taking medication daily as prescribed by the health professional will strengthen my physical health” (70.0%).

The above indicated that most of the participants in this study reported high levels in each subscale of perceived self-efficacy. These findings can be related to the influence of the Bangladesh health policy for the immunization of baby under five years old. This states that if the mother brings the baby to receive immunization, it will be beneficial to the baby's health. This makes the postpartum women aware and helps them believe in their ability to do so (UNICEF, 2010). Furthermore, the findings can be related to a culture that promotes parenthood as a happy event in life. It defines it as a sign of health, while some complications that may arise during pregnancy, delivery, or even in postpartum period are considered as natural (Holman & O'Connor, 2006). These outcomes may be due to appropriate healthcare during pregnancy, delivery, and in the postpartum period or they can also be related to appropriate support by the family or healthcare personnel.

Postpartum women's main concerns and anxiety in this period were related to taking care of their babies, feeding them, feelings of inadequacy, lack of time for personal work, tiredness, breast tenderness or engorgement, episiotomy wounds or negative images of their body, and lack of sleep which can cause agitation and reduce their physical and emotional abilities (Bahodoran, et al., 2008). Appropriate and enough support should be given for the special needs of postpartum women. This should deal with their role as a mother and their emotional, financial and status needs. It should improve their self confidence and give educational help in the postpartum period. The women of this study were mature adults, and having a proper monthly family income impacted on their self-efficacy expectations and outcome expectations perception at high levels.

The three lowest score of self-efficacy expectations were: “I am sure that I can do pelvic floor muscle exercise anytime” (4.2%); “I believe I can balance my daily work and rest” (41.7%); and “I am confident to do some fun to improve my mood when I feel blue” (44.2%). The three lowest score of outcome expectations were: “I am confident that pelvic floor muscle exercise helps me increase pleasure during sexual intercourse or to decrease long term urine leakage” (5.8%); ‘I am sure that performing postpartum exercise every day increases my body strength” (24.2%); and “I am certain that performing minimal activities such as household work will help me to recover gradually” (45%). The four information sources that people use in forming their sense of personal efficacy are performance experience, vicarious experience, verbal persuasion, and physical and emotional reaction (Bandura, 1997). However, forming belief about personal efficacy is a complex process of self-appraisal in which culture may play an influential role. For example, cultures that stress interpersonal harmony are likely to discourage expressing high self-efficacy beliefs publicly (Oettingen, 1995). In a previous study a researcher found that women who revisited the performing pelvic floor muscle exercise (PFME) rehabilitation unit generally stated repeatedly that they were not sure whether they performed the PFME correctly. That is a red flag, signaling that women were often not confident in performing PFME (Chen, 2004). This corresponds with the present study. It was found that within the physiological and psychological changes during the postpartum period, the cultural beliefs and practices of postpartum women affected how they evaluated themselves and were satisfied with their roles. They influenced the participants strongly in their scores on self-efficacy and beliefs in performing pelvic floor muscle exercise,

balancing between daily work and rest, and doing some fun to improve moods when they felt low.

In sum, self-efficacy as a cognitive-perceptual factors in Pender's HPM (2006), is the belief that postpartum women can successfully engage in expected health behavior during the postpartum period. The willingness of postpartum women to engage in a certain behavior is related to the positive benefits expected if that behavior is performed.

Level of Health Promoting Behaviors

Using a revised HPM (Pender, 2006), the components in the model took into account individual characteristics and experiences. These included age, income, education level, and perceived health status. The behavior-specific cognitions and affect, including perceived self-efficacy, were selected in this study it was anticipated that they would make contributions to HPBs. In addition, postpartum women's mental factors, including cognition, belief, and affect, have an impact on health behavior outcomes. People tend to practice HPBs for themselves if they anticipate the benefits of doing those activities. This is in accord with Pender's HPM with its principle that to promote health, individuals must integrate their HPBs into a healthy lifestyle. This results in an enhancement of their level of well-being (Pender, 1996).

This study found that the total score of HPBs of Bangladeshi of postpartum women was at good level with a mean of 133.66 (SD = 14.06). This can be explained by most (93.3%) of the subjects having been educated at high school and above. Education is one of the personal socio-cultural factors which have a direct influence

on both behavior-specific cognitions and affect and behavioral outcomes. Therefore highly educated people are able to reorganize and understand more of what they learn and understand about incidents that happen to them better than less educated people (Pender, et al., 2006). Most of them had the birth and delivery at a hospital (38.3%) and clinic (54.2%) by a doctor (33.3%) or nurse-midwives (10.8%). Moreover, the subjects had visited ANCs regularly (four or more times) (87.5%). They had gained from obstetrician and nurses more direct recommendations about self-care and reinforcement in taking care of themselves. In addition, they were able to learn by observing the related behaviors from other pregnant women or postpartum women. These observations helped them to shape their HPBs during the postpartum period. More than half (55.0%) of the subjects had an adequate income. This indicated that they had enough money for family expenses and to obtain convenient access for their health.

Considering the dimensions of HPBs, it was found that only physical activity was at fair level. All others, including health responsibility, nutrition management, interpersonal relationships, spiritual growth, and stress management were at the level of good. These results are discussed as follows:

Health responsibility: The study revealed that the subjects' score in this aspect was at the good level. According to Pender (1996), the HPB is directed towards increasing the level of well-being and self-actualization of a given individual or group. In other words, the HPB means the practice of an activity that lead to good health, physical, mental, social, and spiritual, which will lead to well-being. The following items were identified: "I do maintain personal hygiene, such as, bathing, or cleaning" (75.8%); "If any unusual signs or symptoms arise, I seek care from

physicians or other healthcare provider" (75.0%); and "I inspect my body for physical changes/danger signs, such as, weakness, or abnormal bleeding" (75.0%). These mean that the subjects' understand about healthy lifestyles and what they actually practice in their daily life are continued in the postpartum period. Postpartum women should follow activities related to self-care management, observation of their body changes during the postpartum period, seeking information, or knowledge, and have postnatal checkups in order to promote their own health and the baby's health.

This may be because 85.8% of the subjects were 20 – 35 years old, which is the time when a person can take care of themselves completely and have developed into adulthood (Pender et al., 2006). They could think, find concrete reasons, and decide and choose the way to enjoy self-care. The frequent of ANC checkups during antenatal period meant they received constant and continued advice about HPBs, and was a sign they already practiced responsibility behaviors. Furthermore, this group of postpartum women was made up of first time mothers. Their birth and delivery took place in hospital or a clinic, and most were conducted by healthcare personnel. The women would pay great attention to seeking knowledge and behaving appropriately during labor and the postpartum period. As a result they had high levels of responsibility towards healthy behavior. This is in accord with the study by Thanomroop (2000) who found that the health responsibility behaviors of pregnant women were at a rather good level.

Physical activity: This study was similar to other studies which reported that their sample least frequently performed the HPBs related to physical activity (Boonsom, 1997; Klankhajhon, 2008; Nirattharadorn, 1996; Pungbangkadee, 1997; Sriyuktasuth, 2002). For example, Klankhajhon (2008)'s study revealed that pregnant

women had moderate exercise behavior. This may be because most pregnant women do activities which do not require too much physical strength. They believe that if they do nothing, labor will be very difficult or the fetus may become too large. Moreover, they avoid activities that require a great deal of physical strength as they are afraid that such activities may harm the fetus. Age, educational level, and gestational age were positively correlated to exercise behaviors. The variables of age, income, educational level, number of pregnancy, gestational age, perceived benefits of exercise, perceived barriers to exercise, and perceived self-efficacy of exercise could jointly explain 16.5% of the variance in exercise behaviors of pregnant women at a statistical significant level.

In the present study all in the sample group were primiparous women who were attentive and interested in their specific experience as postpartum women because they had never previously experienced it. Therefore, the women may have practiced better self-care behavior that included physical activity. Because of their higher educational level, the subjects in this study were able to perceive and understand what needed to be learned, and comprehended the reasons for doing physical activities better. However, in the early postpartum period, women may experience some physical discomfort, such as pain, fatigue, or complications.

Moreover, during the first few postpartum months, women may reduce their regular exercise as they strive to balance new competing responsibilities to deal with the new tasks of first-time motherhood. The most constant responses in the findings were: as “I perform the household chores” (83.3%); “I do light physical activity” (77.5%); and “I do balance between work and rest” (54.2%). These mean the sample did more lifestyle exercise than leisure-time exercise. It can be assumed that lifestyle

exercise is easy to perform in daily life without the use of skills or tools, thus making it convenient to allocate time for exercise. These might include walking, household work, or childcare. As a result, postpartum women had a score at the fair level for physical activity in the HPBs.

However, these results contrast to the study by Chen et al. (2007), who examined the level of HPBs and related factors among Taiwanese postpartum women. The result revealed that overall the HPBs were low with exercise rated lowest among the six subscales. The author noted the ritual practice of Tso-Yueh-Tzu, which involves a month-long period of rest and recuperation amidst the activities of daily living in contemporary society. The ritual is perceived as facilitating the mother's adaptation to new motherhood and, subsequently, to the achievement of health in later life. This influenced the low score for physical activity in that study.

Interpersonal relationships: Similar to other countries in the Asian region, Bangladeshi social customs and behaviors leading to harmony and compromise are valued. People tend to avoid any personal conflict that might be caused by interactions with others. The current findings found that the subjects had a good level of HPB in this aspect, scoring 14 – 28 with an average of 25.30. This meant that the subjects had the opportunity to communicate with others in a meaningful way. They could have relationships with their friends or other people in the society or in the family and exchange their opinions and share their feelings.

Nearly all of them (99.2%) lived with their spouse or with relatives. In addition, they spent time on ANCs visits that gave them the chance to make relationships with other people such as obstetricians, nurses, or the other pregnant women or with the other postpartum women. They might receive some information

that they may use to solve their problems and to decrease their stress. This is reflected in the current findings by statements such as: “I spend time with my family members” (73.3%); “I discuss my problem with my husband and other family members” (69.2%); and “I get support from family members or close relatives when necessary” (69.2%). This is supported by Pan and colleagues (1993) who found that individuals’ behaviors are affected by family and friends. It is also similar to Adams et al. (2000), who found that pregnant women who perceived and received social support developed better health habits and behaviors. The present study findings are also quite similar to the study by Sriyuktasuth (2002) that the women with SLE sustained interpersonal relationship at a moderate level.

Nutrition management: The HPBs of postpartum women in this aspect were at good level, scoring 12 – 24 with an average of 21.13. The top responses to items in this subscale included: “I eat 3 meals every day” (80.8%); “I eat balanced food every day” (72.5%); and “I take food for my physical healing” (70.0%). These suggested that postpartum women would have appropriate eating habits to meet their requirements for nutrients. Good nutrition is important for helping postpartum women recover from pregnancy or childbirth related effects and for breastfeeding and nurturing the baby. The number breastfeeding was high (87.5%). The possible explanation for this is that ANC visits provided them with receive repeated advice and continuous information about suitable nutritional behaviors. This, with the higher educational levels, better socioeconomic status, and better financial condition all facilitated the postpartum women to manage themselves and practice at a good level. This result is consistent with the study by Thanomroop (2000) which found that the nutritional management behaviors of pregnant women were at a rather good level.

Stress management: The findings showed that postpartum women had good levels for this behavior, scoring 14 – 28 with an average of 23.86. The highest responses were: “I accept the things in my life that I cannot change”, (83.3%); “I share ideas with others to manage the stress from my own problem or my baby’s problem” (61.7%); and “I practice relaxation, such as sleep, watching TV, meditation in order to cope with stress” (55.8%). Perhaps postpartum women who engage in positive behaviors may have a more positive affect and appraise the situation as less stressful than women who were not engaging in HPBs (Schaffer & Lia-Hoagberg, 1997). In addition, good relationships, understanding, love and support for each other when they had any problems within the family may be helpful for them to find suitable ways to control and seek ways to ventilate their stress. They also had appropriate ways of reducing or coping with stress, such as getting enough rest and sleep, balancing time between work and rest, and practicing relaxation in order to cope with stress. Therefore, the postpartum women had suitable behaviors about ways of coping when they were in trouble, and affect to perform the stress management behavior at a good level. Thanomroop (2000) also found that pregnant women had a rather good level of stress management behaviors

The findings showed that the postpartum women had a high level for this behavior, scoring 18 – 28 with an average of 25.67. The main items were: “I try to learn and understand myself and how I could be a happy person” (76.7%); “I maintain relationships with others” (75%); and “I take care of myself for being good health” (70.0%). These items reflected how postpartum women connected to other people. They had a relationship with the environment and had enthusiasm for activities, and identified life’s objectives or purposes. The findings from the study showed that 55%

of the babies were boys, and the birth of at least one son is important to Bangladeshis. Preference for a son arises from the patrilineal social organization and patrilocal household structure. Sons perpetuate the lineage, maintain an economically viable household, provide for their parents in old age, and arrange for funerals and spiritual welfare of the parents after their death (Aziz & Maloney, 1985). These aspects helped women fulfill the goal in their lives related to being mother and the value of having a baby in accord with cultural belief and norms. The good relationships with their husband, relatives, friends, or community would ensure they received love, attention, and could share their responsibilities. They would have more confidence and power to engage effectively in any actions to promote their health. As a result, the postpartum women in this study had a good level of spiritual growth behaviors. This result confirms Thanomroop's (2000) study, which found that the spiritual growth behaviors of pregnant women were at a rather good level.

Relationship between Perceived Health Status and Perceived Self-Efficacy

Perceived health status had moderately positive significant relationship with HPBs (r = .68, p < .01). This indicated that the higher the perceived health status the higher the perceived self-efficacy. According to the data, the mean score for the overall perceived health status was 64.07 (SD = 9.92). The participants had a mean score for the overall perceived self-efficacy of 209.83 (SD = 20.28). The item of the perceived health status scale that the participants most strongly agreed with was: "I feel I have a lot of energy" (41.7%). This was similar to the items in the perceived self-efficacy scale such as: "I am confident to do some fun to improve my mood when

I feel blue" (44.2%); "I believe I can balance my daily work and rest" (41.7%). These items reflected the most common postpartum changes or symptoms as generally reported in the literature.

In the immediate postpartum period (birth to 3 month) 87% to 94% of women report at least one health problem. For example, the following can pose problems for new mothers: backache, urinary stress incontinence, hemorrhoids, extreme tiredness, frequent headaches, and migraines. Also common are: perineal pain, constipation, increased sweating, acne, hand numbness or tingling, dizziness, and hot flushes. In addition, approximately 10% of such women will experience depression. Many women, whether lactating or not, report breast problems, including discomfort, sore nipples, and infection. Dyspareunia and decreased libido in relation to sexual problems have been reported by up to 53% during this period, and have been shown to peak at 3 months after delivery. Studies have attempted to assess new mothers' functional status at 6 weeks postpartum. Functional status was defined as the mother's ability and readiness to integrate her new role as mother with her other duties in the household, community, and workplace and to resume self-care activities. The self-report results showed that none of the mothers had resumed full functional status by 6 weeks postpartum. Many women experienced inadequate social support, disturbed sleep patterns, and dissatisfaction with their energy levels and well-being (Borders, 2006).

Moreover, postpartum women may rationalize that their health problems or health conditions are a natural part of the physical changes and role demands of the postpartum period. For most physical conditions, such as tiredness and backaches, postpartum women did not seek assistance from healthcare professionals (Declercq

et al., 2002; Glazener et al., 1995). This may explain, at least in part, why the relationship between the overall score of perceived health status and the overall score of perceived self-efficacy were moderately correlated, even though each of them was at good level of perception. This finding is also similar to the study of Sriyuktasuth (2002) who found that the perceived health status of Thai SLE women had a significant direct relationship with perceived self-efficacy.

Relationship between Perceived Health Status and HPBs

Perceived health status had moderate positively significantly relationship with HPBs (r = .61, p < .01). This indicated that the higher the perceived health status, the better were the performances of the HPBs. Based on the findings, the mean score of the overall perceived health status was 64.07 (SD = 9.92), and the participants would also have a mean of the overall HPBs at a high level (Mean = 133.66, SD = 14.06). This would be because perceived health status is a determinant of the frequency and intensity of HPBs. Through the cognitive processes, the postpartum women in this study who perceived that they were healthy may believe in the positive outcomes because of their ability to participate in healthy behaviors. As a consequence, they may have been more likely to engage in the HPBs to enhance their health. The current result was consistent with that of Wilson (1991), who found that health status was the most effective factor used to describe the HPBs of married and unmarried mothers. This finding also concurred with a study exploring health promoting lifestyles and related factors in pregnant women. There was significant difference in the total scores of the health promoting lifestyles among subjects with different perceived health

status. Perceived health status combined with perception of the family or peers' HPBs, the self-efficacy of health behaviors, and chronic diseases were the four significant predictors of health-promoting lifestyles, accounting for 62.4% of the variance (Lin et al., 2009). However, Suwonnaroop (1998) found that the perception of health status had neither direct nor indirect effects on older adults' HPBs. However, the findings amongst Thai SLE women showed that perceived health status emerged as a significant variable affect on the HPBs, with an indirect effect through perceived self-efficacy (Sriyuktasuth, 2002).

When considering the subscales of the HPBs, the present study found that physical activity was at a fair level. This was together with the items in perceived health status, such as: "I am healthy now" (63.3%); and "I feel I have a lot of energy" (41.7%); This concurred with the items in the HPBs such as:, "I do balance between work and rest" (54.2%); "I find out the specific methods to control my stress" (55.0%); and "I pace myself to prevent tiredness" (55.0%). These items reflected how they felt in a general specific situation during the 1 ½ - 2 months after birth and how they tried to undertake self-care for themselves. A previous study found that postpartum women have information needs that parallel their concerns. Moran, Holt, and Martin (1997) interviewed women seven weeks after their babies were born and found that their participants wanted more information about self-care (such as exercise, nutrition, fatigue, and resuming normal activities) and baby care (such as consoling infants, recognizing illnesses, getting the babies on a schedule). First-time mothers, young mothers, and those with less than a high school education and less social support had the highest needs for information.

Generally speaking, new mothers are not routinely provided with the education and support necessary for a smooth postpartum adjustment. Women who give birth vaginally typically spend less than 48 hours after childbirth in the hospital, and therefore have limited opportunities to acquire information and support from healthcare practitioners. According to the data described above, it can be seen that the overall score of perceived health status and the overall score of HPBs were only moderate correlated, even though each was at a good level of perception.

Relationship between Perceived Self-Efficacy and HPBs

This study showed that the correlation between perceived self-efficacy and HPBs was highly significantly statistically correlated ($r = .83$, $p < .01$). This indicated that the higher the perceived self-efficacy, the better the HPBs were performed. According to the data, the mean score for the overall perceived self-efficacy was 209.83 (SD = 20.24), and the participants' mean score for the overall HPBs was at a good level (Mean = 133.66, SD = 14.06). The leading responses to the items of perceived self-efficacy were: "I believe that taking some time for relaxation helps me to have plenty of energy to care for my health needs" (79.2%); and "I am sure that taking medication daily as prescribed by the health professional will strengthen my physical health" (70.0%). These may be compared with the items in the HPBs such as: "I inspect my body for physical changes/danger signs, such as, weakness, or abnormal bleeding" (75.0%); and "I ask for information from health professional about how to take good care of myself and my baby" (73.3%). This finding confirmed Pender's idea that perceived self-efficacy is considered one of the major factors in

behavior-specific cognitions and affect influencing the performance of HPBs (Pender et al., 2006). Persons with high self-efficacy are likely to select appropriate health activities that lead to their optimal health and well-being, initiate and maintain those activities, and also have great commitment to pursue anticipated outcomes. The current findings are in accord with the study of Thai women experiencing SLE, who had a high level of self-efficacy and had a greater tendency to participate in the activities needed to improve their health conditions (Sriyuktasuth, 2002).

This was similar to Hinton and Olson's (2001) findings. They conducted a study on the importance of behavior-specific self-efficacy in postpartum exercise and food intake. The results indicated that women during the first year postpartum will be most successful in getting regular exercise if they have a plan for or the intention of getting regular exercise and if they are confident in their ability to carry this out. This is also similar to Lin and colleague's (2009) finding that the self-efficacy of health behaviors was positively associated with health promoting lifestyles among pregnant women.

According to Pender's HPM (Pender, et al., 2006) an individual's belief about their health influences the frequency and intensity of HPBs, and health is an individual capability that is both innate and grows at a later time. This ability is a behavior that has obvious aims and is completed with physical, psychological, emotional, spiritual, and environmental health factors. HPBs consist of various activities that elevate health and good living and lead to life-time fulfillments (Pender, 2002). In this present study, the selected variables were derived from the three major constructs. The first construct is individual characteristics and experience of perceived health status. The second construct is behavior-specific cognition and affect of

perceived self-efficacy. The third construct is behavioral outcome of HPBs in postpartum women.

The findings in this present study demonstrated that Bangladeshi postpartum women who were mature adults with higher educational level, better socio-economic status, good social support, visited ANCs regularly, and lived in urban areas were found to have good or high levels of perceived health status, perceived self-efficacy, and HPBs during the period of 1½ – 2 months after birth. However, in the subscale of HPBs the physical activity was at fair level. In addition, there also were moderate positive relationship between perceived health status and HPBs, moderate positive relationship between perceived health status and perceived self-efficacy, and a high positive relationship between perceived self-efficacy and HPBs.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

This descriptive correlational study was designed to describe the levels of perceived health status, perceived self-efficacy and health promoting behaviors. It also examined the relationships between perceived health status, perceived self-efficacy and health promoting behaviors of postpartum women. It was conducted at the Expanded Program of Immunization (EPI) Center at Chittagong Medical College Hospital, Bangladesh. Data were collected from December 2009 to February 2010. The participants consisted of primiparous postpartum women who had delivered a single, healthy term baby without complication during birth and in postpartum period, and came for child immunization to the EPI center. They were asked to complete 4 parts of questionnaires: the Demographic Data, the PHSQ, the PSEQ, and the HPBQ. The data were analyzed by a computer software program. This chapter provides a summary of the findings, the strengths and limitations of the study, and the implications and recommendations are addressed.

Summary of the Study's Findings

1. The majority of the subjects were 20 - 35 years old (85.9%) and more than half (55.8%) were educated at college/university level. The average family income was 22,058.33 Taka (approximately 315 US$) per month, and most of them were housewives (53.3%).

2. The scores of perceived health status, and HPBs were at good levels except for the physical activity dimension which was at a fair level. In addition, perceived self-efficacy was at a high level.

3. The perceived health status, perceived self-efficacy and HPBs had significantly moderate to high positive correlations. The perceived health status was moderately correlated with the HPBs *(*r = .61, p < .01). The perceived self-efficacy was highly correlated with the HPBs (r = .83, p < .01), and the perceived health status was moderately correlated with self-efficacy (r = .68, p < .01).

Strengths and Limitation of the Study

The strengths of this study

1. The strength of this study is related to the theoretical issues. The theoretical framework used in this study, explaining the HPBs of postpartum women and related factors, partially supports Pender‘s health promotion model in terms of the perceived health status, perceived self-efficacy, and the relationship to HPBs.

2. The data were collected by the researcher and all participants received full information. This is a consistent way to approach subjects and ensure the subjects’ understanding of the questions. The subjects could directly approach the researcher if they had any problems in answering the questionnaires.

3. The instruments were translated by using the back translation method with cultural sensitivity that enhanced the subjects’ understanding in adjusting to the instruments.

The limitations of the study

1. The study was limited by its homogenous population (mostly a group of well-educated housewives of mature age. The characteristics of this sample were favorable and the findings were that this group of postpartum women tended to have better postpartum health outcomes. This might be overly optimistic, so the results have limited application to the broader population of Bangladeshi postpartum women.

2. The subjects recruited in this study were from one setting only, and they had to meet the inclusion criteria of having a normal childbirth and healthy a infant. Thus it is unlikely that the findings can be generalized to different setting and other more varied groups of postpartum mother is.

3. The subjects needed more time in respond to the questionnaires, especially for recalling of how much time they spent performing the HPBs during the 1½-2 months after childbirth. To overcome this situation, the researcher allowed the subjects enough time to complete questionnaire including explaining or giving examples for clarification. This situation may have had an effect on the subjects' responses to the questionnaire.

Implications and Recommendations

Implications for nursing practice

Clinical nurses face a challenge in promoting the health and wellbeing of postpartum women and encouraging and facilitating appropriate health promoting activities. Nurses are always in the front line for health services, because of their close relationships with women during their prenatal check-up, delivery, and postpartum

stages. Nurses therefore appear to be in an ideal position to identify the health issues and act accordingly to provide health promotion interventions. The findings from this study provide valuable information regarding the level and relationship between perceived self-efficacy and HPBs in Bangladeshi postpartum women. On the basis of the results, specific confidence-enhancing strategies could include attention to successful or improved aspects of postpartum health promoting performances. For example, they can promote the health education program for improving the knowledge of postpartum self-care. This particularly applies to the issue of pelvic floor muscle exercises or Kegel exercise in the cultural context of Bangladeshi postpartum women. Nurses can provide strategic methods for reinforcing other postpartum positive self-care practices.

Implications for nursing education

The findings of this study indicate the usefulness of the HPM in describing HPBs. The model includes influencing factors for person to engage in HPBs. This knowledge is beneficial in guidance practice by nursing students or in-service education for senior staff nurses for the intervening with postpartum women. This could encourage participation in HPBs to enhance health and wellbeing.

Implications for nursing administration

The study showed the high level of perceived self-efficacy and the high correlation between perceived self-efficacy and HPBs in Bangladeshi postpartum women. These are needed to encourage mothers to form health promoting lifestyle habits and remind them that they need to receive regular healthcare rather than ignore their healthcare needs. The study findings present a challenge to the situation in

Bangladesh, where the rate of mortality and morbidity are still high. Therefore, long-term efforts should be taken to improve women's health.

Implications for nursing research

1. The study should be replicated using large samples in other geographical locations, particularly in rural areas and amongst other groups of postpartum women. These could include mothers facing problems of hypertension and diabetes mellitus. These could confirm the usefulness of the HPM.

2. Other variables not in the current study should be included in future studies using the proposed HPM. These could investigate the direction, strength, and linkages of the relationships among variables.

3. Nursing interventions or guidelines for practice should be developed and examined that could provide support and guidance to enhance health promoting behaviors of Bangladeshi postpartum women. In this way negative health outcomes may be prevented or minimized, and the postpartum health of postpartum mothers optimized.

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APPENDICES

APPENDIX A

The Consent Form

Dear postpartum mother,

My name is Dipali Rani Mallick. I am a student on the International Masters of Nursing Science Program (Midwifery), Prince of Songkla University, Thailand. I am conducting a research study entitled "Perceived health status, perceived self-efficacy and health promoting behavior of Bangladeshi postpartum women." You are a key person, who could give me such information. Thus I would like to request you for your co-operation in completing this 4-part questionnaire. All the answers will be kept confidential and will be presented as a group report. In addition, the privacy of your medical records will be preserved. The outcome of the study will contribute to nursing practice for enhancing health promoting behaviors for all Bangladeshi postpartum mothers, and for the improvement of future nursing education and nursing research.

You have the right to accept or withhold your consent. You can refuse or withdraw from this study at any time with no effect on the nursing services or treatment received. This study, however, will be successful with your co-operation. Your decision to participate in this study will be greatly appreciated.

Signature of Researcher ……

Date…….

Signature of participant ……..

Date……...

Subject ID……..……..

Date/Time……

APPENDIX B

Instruments

The questionnaire is composed of four parts: part 1, part 2, part 3, and part 4.

Part-1**:** Demographic Data Form

The following items are some information about yourself. Please answer the best choice with putting (√) mark in the box "☐" that is appropriate for you. If you cannot read, the investigator will read this questionnaire for you, and ask your information, then write the answer to each of the item.

1. Age……..year

2. Religion

☐ 1. Muslim

☐ 2. Hindu

3. Level of education

☐ 1. No formal education

☐ 2. Primary school

☐ 3. High school

☐ 4. Colleges/ University

☐ 5. Others, please specify…….....

4. Occupation

☐ 1. None

☐ 2. Housewife

☐ 3. Private employee

☐ 4. Government employee

☐ 5. Others, please specify…….

5. Monthly family income…….…….……..…….…..TK

6. Distance from hospital to residence……..... minutes/hours

7. Place of living

☐ 1. Urban area

☐ 2. Rural area

8. Living with

☐ 1. Alone

☐ 2. With spouse

☐ 3. With relative

☐ 4. If with anyone else, please specify..…….....

9. How many times did you have antenatal checkup?

☐ 1. Once

☐ 2. Twice

☐ 3. Three times

☐ 4. Four times

☐ 5. More than 4 times

☐ 6. Never

10. Where did you have delivery your baby?

- ☐ 1. Hospital
- ☐ 2. Clinic
- ☐ 3. Home
- ☐ 4. If elsewhere, please specify..……..

11. What is your baby weight at birth……..…….…….....grams.

12. Health care provider who delivered the baby

- ☐ 1. Midwife/Nurse
- ☐ 2. Doctor
- ☐ 3. Trained birth attendant/Skilled birth attendant
- ☐ 4. Relatives
- ☐ 5. If anyone else, please specify..…….....

13. Types of baby feeding during postpartum period

- ☐ 1. Exclussive breast feeding
- ☐ 2. Breast feeding with pot milk

14. What is the sex of your baby?

- ☐ Male
- ☐ Female

Part 2: Perceived Health Status Questionnaire (PHSQ)

The following questions will be asked about your health during the past 1½.-2 months. Please give the best answer as much as you can, select one answer for each question by putting (√) on the response choices listed below. If you cannot read, the investigator will read this questionnaire for you, and then write the answer for each of the items. The meaning of your choice is as follows:

1 = Strongly disagree – to mean that you strongly disagree with that item.

2 = Disagree – to mean that you disagree with that item.

3 = Neutral – to mean that you neither agree nor disagree with that item.

4 = Agree – to mean that you agree with that item.

5 = Strongly agree – to mean that you strongly agree with that item.

Statements	1	2	3	4	5
Physical health perception					
1. I am healthy now.	1	2	3	4	5
2. I feel better than the last 1½ or 2 months.	1	2	3	4	5
3. I am as healthy as other postpartum mother.	1	2	3	4	5
4. I am satisfied with my present health status.	1	2	3	4	5
5. My health problems stop me from doing thing I want to do.	1	2	3	4	5
6. I have limitation to do some activities, such as, cleaning room or clothes.	1	2	3	4	5
7. I feel I have a lot of energy.	1	2	3	4	5
8. I feel I am tired.	1	2	3	4	5
Mental health perception					
9. I have been feeling as a nervous person.	1	2	3	4	5
10. I have felt so down that nothing could cheer me up.	1	2	3	4	5
11. I have felt calm and peaceful.	1	2	3	4	5

Statements	1	2	3	4	5
12. I have felt blue.	1	2	3	4	5
13. My physical and emotional health problems do not interfere with my normal social activities such as visiting the relatives.	1	2	3	4	5
14. I feel my life is purposeful.	1	2	3	4	5
15. I feel that I am a happy person.	1	2	3	4	5

Part 3: Perceived Self – Efficacy Questionnaire (PSEQ)

Instruction: In the statements below, indicate how certain you are about your ability to perform the behavior to promote your health and how helpful you feel of that behavior, which could help you to cope with the changes of your health during the past 1½ - 2 months after giving birth the baby. Please choose by a tick mark (√) only one for each item that will indicate how confident or sure you are in your health promoting behavior. The meaning of your choice is as follows:

1 = Strongly disagree – to mean that you strongly disagree with that item.

2 = Disagree – to mean that you disagree with that item.

3 = Neutral – to mean that you neither agree nor disagree with that item.

4 = Agree – to mean that you agree with that item.

5 = Strongly agree – to mean that you strongly agree with that item.

Statements	1	2	3	4	5
Self-efficacy expectancy scale					
1. I will be able to have the postpartum checkup as scheduled by the health professionals.	1	2	3	4	5
2. I will be able to have the postpartum checkup even though I gave birth at home by the TBA or SBA.	1	2	3	4	5
3. I can take medicine through postpartum period, such as, vitamins or anemic drugs as prescribed by the health professionals.	1	2	3	4	5
4. I am able to control my minor physical discomforts, for examples; uterine cramps, constipation, hemorrhoid, pain that arose from incision sites (episiotomy) etc.	1	2	3	4	5
5. I am able to talk with others, when I face with my health or baby health problem.	1	2	3	4	5

Statements	1	2	3	4	5
6. I am confident to find the way of taking good care for my baby's health.	1	2	3	4	5
7. I believe I can find the way of taking good care of my body and mind.	1	2	3	4	5
8. I am sure I can take my baby to a doctor for checkups or receiving the immunization 1½ months after birth.	1	2	3	4	5
9. I am sure that I can do pelvic floor muscle exercise anytime.	1	2	3	4	5
10. I am confident to perform my normal household chores.	1	2	3	4	5
11. I believe I can balance my daily work and rest.	1	2	3	4	5
12. I am sure I can maintain a balance fluid intake and diet.	1	2	3	4	5
13. I am sure I can seek the information or knowledge for nutrition for myself and my baby.	1	2	3	4	5
14. I believe I can select the supplement food as they are suitable for my health.	1	2	3	4	5
15. I am confident to get along with my family members.	1	2	3	4	5
16. I am confident to maintain good relationship with my husband and family members.	1	2	3	4	5
17. I believe I can share ideas with other postpartum mothers.	1	2	3	4	5
18. I am confident to make my life purposeful.	1	2	3	4	5
19. I am confident to feel connected with some force greater than myself.	1	2	3	4	5
20. I am confident to grow and change in positive ways.	1	2	3	4	5
21. I am sure I can take some time for rest each day.	1	2	3	4	5
22. I believe I can accept the reality of postpartum physical or emotional changes which I did not expect before.	1	2	3	4	5
23. I am confident to do some fun to improve my mood when I feel blue.	1	2	3	4	5

Statements	1	2	3	4	5
Outcome expectancy					
1. I believe that postpartum checkup can prevent the gynecological problems resulted from labor and birth.	1	2	3	4	5
2. I am taking medication daily as prescribed by the health professional will strengthen my physical health.	1	2	3	4	5
3. I am sure that the alternative or appropriate method (e.g. intake good nutrition, exercise, rest and sleep, or control of the negative emotion, etc.) heal myself from minor physical discomfort and enhance the resuming of normal activities as quickly as it can.	1	2	3	4	5
4. I am sure that communication with others to get enough information, or support makes me feel relaxed and free from my health problems.	1	2	3	4	5
5. I believe that taking care of my baby's health can make me satisfied with the maternal experience in postpartum period.	1	2	3	4	5
6. I am confident that taking good care of my health helps me successfully to cope with the postpartum changes of mind and body during postpartum period.	1	2	3	4	5
7. I am sure that taking baby for checkups or receiving the immunization 1½ - 2 months after birth can make my baby have a normal growth and development.	1	2	3	4	5
8. I am confident that pelvic floor muscle exercise helps me increase pleasure during sexual intercourse or to decrease long term urine leakage.	1	2	3	4	5
9. I am sure that performing postpartum exercise everyday increases my body strength.	1	2	3	4	5
10. I am certain that performing minimal activities such as, household works will help me to recover gradually.	1	2	3	4	5

Statements	1	2	3	4	5
11. I certainly believe that balancing daily work and rest can reduce my weakness and fatigue.	1	2	3	4	5
12. I am sure that maintaining a balance between fluid intake and diet helps me recover progressively and reduce the problems of constipation and fatigue.	1	2	3	4	5
13. I am sure that seeking information or knowledge for nutrition makes me confident of my own health and lactation for my baby.	1	2	3	4	5
14. I am sure that I can take enough food to promote my body strengthening.	1	2	3	4	5
15. I believe that getting along with my family members can support my health promoting behaviors.	1	2	3	4	5
16. I am confident that maintaining a good relationship with my husband and family members help me to relax or deal with the tension from changes during postpartum period.	1	2	3	4	5
17. I believe that sharing ideas with other postpartum women help me get more information about health care or infant care.	1	2	3	4	5
18. I am confident that looking for the future alerts me to know about the importance of taking care of my health and baby's health.	1	2	3	4	5
19. I believe that making my life purposeful will guide me to do the best thing for my health and my life.	1	2	3	4	5
20. I believe that feeling connected with some force greater than myself or believe in God help me to have more responsibility in my own care and my baby's care.	1	2	3	4	5
21. I am confident that growing and changing in positive ways motivate me to do the best for my health.	1	2	3	4	5

Statements	1	2	3	4	5
22. I believe that taking some time for relaxation helps me have plenty of energy to care for my health needs.	1	2	3	4	5
23. Ability to accept the reality of postpartum changes make me flexible and patient with the physical discomfort that might happen.	1	2	3	4	5
24. I believe if I do some fun to improve my mood, it will regulate or control myself during blue.	1	2	3	4	5

Part 4**:** Health Promoting Behavior Questionnaire (HPBsQ)

This questionnaire is about your present way of life or personal habits. Please select one number from 1 to 4 regarding how much of your time you have perform during 1 ½ - 2 months after childbirth. Please respond to each item as accurately as possible and do not skip any item. If you have selected any number please encircle or put mark (√) that item. The meaning of your choice is as follows:

1 = Never

2 = Sometime

3 = Often, and

4 = Routinely.

Statements	1	2	3	4
Health responsibility				
1. I have the physical health checkup in postpartum period.	1	2	3	4
2. If any unusual sign or symptoms arise, I seek care from physicians or other healthcare provider.	1	2	3	4
3. If I do not understand the healtcare instruction, I ask from the health care providers as soon as I can.	1	2	3	4
4. I ask for information from health professional about how to take good care of myself and my baby.	1	2	3	4
5. I do maintain personal hygiene, such as, bathing, or cleaning.	1	2	3	4
6. I inspect my body for physical changes/danger signs, such as, weakness, or abnormal bleeding.	1	2	3	4
Physical activity				
7. I perform the household chores.	1	2	3	4
8. I do light physical activity.	1	2	3	4
9. I do kegel exercise for perineal muscle strength.	1	2	3	4

Statements	1	2	3	4
10. I avoid vigorous activity such as running, lifting heavy weight.	1	2	3	4
11. I do balance between work and rest.	1	2	3	4
Nutrition				
12. I take food for my physical healing.	1	2	3	4
13. I eat balanced food everyday.	1	2	3	4
14. I eat 3 meals everyday.	1	2	3	4
15. I drink enough water.	1	2	3	4
16. I drink one or two glasses of milk everyday.	1	2	3	4
17. I take more food during pregnancy for enough breastfeeding of my baby.	1	2	3	4
Spiritual growth				
18. I share a sense of togetherness.	1	2	3	4
19. I maintain relationship with others.	1	2	3	4
20. I try to learn and understand myself how could I am a happy person.	1	2	3	4
21. I pray for my inner peaceful.	1	2	3	4
22. I help others get more strength when she/he feel difficulty.	1	2	3	4
23. I take care of myself for being good health.	1	2	3	4
24. I try to keep my healthy in order to be a good mother for nurturing my baby.	1	2	3	4
Interpersonal relationship				
25. I discuss my problem with my husband and other family members.	1	2	3	4
26. I maintain meaningful relationship with others.	1	2	3	4
27. I spend time with my family.	1	2	3	4
28. I get support from family members or close relatives when necessary.	1	2	3	4
29. I resolve any conflict with other through discussion.	1	2	3	4
30. I find ways to meet my needs for closeness.	1	2	3	4

Statements	1	2	3	4
31. I keep myself away from feeling lonely.	1	2	3	4
Stress management				
32. I get enough sleep.	1	2	3	4
33. I balance time between work and rest.	1	2	3	4
34. I share idea with others to manage the stress from my own problem or my baby's problem.	1	2	3	4
35. I accept the thing in my life that I cannot change.	1	2	3	4
36. I find out the specific methods to control my stress.	1	2	3	4
37. I practice relaxation, such as sleep, watching TV, meditation in order to cope with stress.	1	2	3	4
38. I pace myself to prevent tiredness.	1	2	3	4

APPENDIX C

Findings from the study

Table 4

Mean, Standard Deviation, Minimum–Maximum and Level of Perceived Health Status, Perceived Self – Efficacy, and HPBs of Bangladeshi Postpartum Women (N = 120)

Variables	M	SD	Min-Max	Level					
				Poor		Fair		Good	
				n	%	n	%	n	%
Perceived health status	64.07	9.92	32 - 75	2	1.7	18	15.0	100	83.3
Physical health	32.96	5.85	16-40	3	2.5	24	20.0	93	77.5
Mental health	31.12	4.77	16-35	1	0.8	11	9.2	108	90.0
Perceived self-efficacy	209.83	20.24	155 - 235	0	0	8	6.7	112	93.3
Efficacy expectation	103.01	9.77	73 - 115	0	0	7	5.8	113	94.2
Outcome expectation	106.81	11.14	81 - 120	0	0	8	6.7	112	93.3
Total HPBs	133.66	14.06	94 - 151	0	0	15	12.5	105	87.5
Health responsibility	22.07	2.67	12 - 24	1	0.8	15	12.5	104	86.7
Physical activity	15.60	1.79	12 - 20	0	0	57	47.5	63	52.5
Nutritional management	21.13	3.01	12 - 24	2	1.7	26	21.6	92	76.7
Spiritual growth	25.67	2.71	18 - 28	0	0	18	15.0	102	85.0
Interpersonal relationship	25.30	3.11	14 - 28	1	0.8	19	15.9	100	83.3
Stress management	23.86	3.80	14 - 28	1	0.8	33	27.5	86	71.7

Table 5

Frequency and Percentage of Perceived Health Status Scores of Postpartum Women (N = 120)

Items	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Physical health										
1. I am healthy now.	0	0	16	13.4	1	0.8	27	22.5	76	63.3
2. I feel better than last 1½ or 2 months.	0	0	5	4.2	2	1.6	29	24.0	84	70.0
3. I am as healthy as other postpartum mother.	0	0	8	6.6	2	1.7	26	21.7	84	70.0
4. I am satisfied with my present health status.	2	1.7	13	10.8	1	0.8	30	25.0	74	61.7
5. My health problems stop me from doing thing I want to do.	60	50.0	35	29.2	0	0	25	20.8	0	0
6. I have limitation to do some activities, such as, cleaning room or clothes.	62	51.7	33	27.5	1	.8	24	20.0	0	0
7. I feel I have a lot of energy.	0	0	16	13.3	1	0.8	53	44.2	50	41.7
8. I feel I am tired.	16	13.3	23	19.2	0	0	80	66.7	1	0.8
Mental health										
9. I have been feeling as a nervous person.	68	56.7	22	18.3	4	3.3	26	21.7	0	0
10. I have felt so down that nothing could cheer me up.	84	70.0	20	16.7	8	6.6	8	6.7	0	0
11. I have felt calm and peaceful.	2	1.7	7	5.8	3	2.5	36	30.0	72	60.0
12. I feel blue.	88	73.3	13	10.8	9	7.5	8	6.7	2	1.7
13. My physical and emotional health problem does not interfere with my normal social activities such as visiting the relatives.	1	0.8	7	5.8	2	1.7	30	25.0	80	66.7
14. I feel my life is purposeful.	0	0	6	5.0	3	2.5	30	25.0	81	67.5
15. I feel that I am a happy person.	0	0	6	5.0	4	3.3	25	20.9	85	70.8

Table 6

Frequency and Percentage of Perceived Self – Efficacy Scores of Postpartum Women (N = 120)

Items	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
Self-efficacy expectations										
1. I will be able to have the postpartum checkup as scheduled by the health professionals.	0	0	2	1.7	12	10.0	32	26.6	74	61.7
2. I will be able to have the postpartum checkup even though I gave birth at home by the TBA or SBA.	0	0	2	1.7	15	12.5	33	27.5	70	58.3
3. I can take medicine through postpartum period, such as, vitamins or anemic drugs as prescribed by the health professionals.	0	0	4	3.3	5	4.2	23	19.2	88	73.3
4. I am able to control my minor physical discomforts, for examples; uterine cramps, constipation, hemorrhoid, pain that arose from incision sites (episiotomy) etc.	0	0	6	5.0	2	1.7	38	31.6	74	67.7
5. I am able to talk with others, when I face with my health or baby health problem.	0	0	1	0.8	2	1.7	32	26.7	85	70.8
6. I am confident to find the way of taking good care for my baby's health.	0	0	6	5.0	1	0.8	24	20.0	89	74.2
7. I believe I can find the way of taking good care of my body and mind.	0	0	12	10.0	4	3.3	28	23.4	76	63.3
8. I am sure I can take my baby to a doctor for checkups or receiving the immunization 1½ months after birth.	0	0	0	0	0	0	3	2.5	117	97.5
9. I am sure that I can do pelvic floor muscle exercise anytime.	0	0	2	1.7	107	89.1	6	5.0	5	4.2

Table 6 *(Continued)*

Items	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
10. I am confident to perform my normal household chores.	0	0	0	0	7	5.8	45	37.5	68	56.7
11. I believe I can balance my daily work and rest.	0	0	8	6.7	2	1.6	60	50.0	50	41.7.
12. I am sure I can maintain a balance fluid intake and diet.	0	0	10	8.3	2	1.7	42	35.0	66	55.0
13. I am sure I can seek the information or knowledge for nutrition for myself and my baby.	0	0	6	5.0	5	4.2	34	28.3	75	62.5
14. I believe I can select the supplement food as they are suitable for my health.	0	0	6	5.0	5	4.2	34	28.3	75	62.5
15. I am confident to get along with my family members.	0	0	2	1.7	1	0.8	44	36.7	73	60.8
16. I am confident to maintain good relationship with my husband and family members.	0	0	2	1.7	1	0.8	37	30.8	80	66.7
17. I believe I can share ideas with other postpartum mothers.	0	0	0	0	5	4.2	44	36.6	71	59.2
18. I am confident to make my life purposeful.	0	0	1	0.8	7	5.9	37	30.8	75	62.5
19. I am confident to feel connected with some force greater than myself.	0	0	1	0.8	0	0	3	2.5	116	96.7
20. I am confident to grow and change in positive ways.	0	0	6	5.0	10	8.3	28	23.4	76	63.3
21. I am sure I can take some time for rest each day.	1	0.8	9	7.5	3	2.5	43	35.9	64	53.3
22. I believe I can accept the reality of postpartum physical or emotional changes which I did not expect before.	0	0	1	0.8	1	0.9	18	15.0	100	83.3

Table 6 *(Continued)*

Items	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
23. I am confident to do some fun to improve my mood when I feel blue.	0	0	2	1.7	20	16.6	45	37.5	43	44.2
Outcome expectations										
1. I believe that postpartum checkup can prevent the gynecological problems resulted from labor and birth.	0	0	0	0	8	6.7	36	30.0	76	63.3
2. I am taking medication daily as prescribed by the health professional will strengthen my physical health.	0	0	0	0	3	2.5	33	27.5	84	70.0
3. I am sure that the alternative or appropriate method (e.g. intake good nutrition, exercise, rest and sleep, or control of the negative emotion, etc.) heal myself from minor physical discomfort and enhance the resuming of normal activities as quickly as it can.	0	0	0	0	1	0.8	38	31.7	81	67.5
4. I am sure that communication with others to get enough information, or support makes me feel relaxed and free from my health problems.	0	0	0	0	6	5.0	36	30.0	78	65.0
5. I believe that taking care of my baby's health can make me satisfied with the maternal experience in postpartum period.	0	0	0	0	9	7.5	39	32.5	72	60.0
6. I am confident that taking good care of my health helps me successfully to cope with the postpartum changes of mind and body during postpartum period.	0	0	0	0	9	7.5	39	32.5	72	60.0

Table 6 *(Continued)*

Items	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
7. I am sure that taking baby for check-up or receiving the immunization 1½ - 2 months after birth can make my baby have a normal growth and development.	0	0	0	0	1	0.8	13	10.9	106	88.3
8. I am confident that pelvic floor muscle exercise helps me increase pleasure during sexual intercourse or to decrease long term urine leakage.	0	0	0	0	104	86.7	9	7.5	7	5.8
9. I am sure that performing postpartum exercise every day increases my body strength.	0	0	2	1.7	32	30.8	52	43.3	29	24.2
10. I am certain that performing minimal activities such as, household works will help me to recover gradually.	0	0	0	0	8	6.7	58	48.3	54	45.0
11. I certainly believe that balancing daily work and rest can reduce my weakness and fatigue.	0	0	0	0	1	0.8	42	35.0	77	64.2
12. I am sure that maintaining a balance between fluid intake and diet help me recover progressively and reduce the problems of constipation and fatigue.	0	0	1	0.8	7	5.9	42	35.0	70	58.3
13. I am sure that seeking information or knowledge for nutrition makes me confident of my own health and lactation for my baby.	0	0	2	1.7	10	8.3	44	36.7	64	53.3
14. I am sure that I can take enough food to promote my body strengthening.	0	0	12	10.0	6	5.0	31	25.8	71	59.2

Table 6 *(Continued)*

Items	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
15. I believe that getting along with my family members can support my health promoting behaviors.	0	0	0	0	8	6.7	37	30.8	75	62.5
16. I am confident that maintaining a good relationship with my husband and family members help me to relax or deal with the tension from changes during postpartum period.	0	0	0	0	16	13.3	49	40.9	55	45.8
17. I believe that sharing ideas with other postpartum women help me get more information about healthcare or infant care.	0	0	0	0	5	4.2	51	42.5	64	53.3
18. I am confident that looking for the future alerts me to know about the importance of taking care of my health and baby's health.	0	0	0	0	10	8.3	46	38.4	64	53.3
19. I believe that making my life purposeful will guide me to do the best thing for my health and my life.	0	0	0	0	14	11.7	45	37.5	61	50.8
20. I believe that feeling connected with some force greater than myself or believe in God help me to have more responsibility in my own care and my baby's care.	0	0	0	0	2	1.7	37	30.8	81	67.5
21. I am confident that growing and changing in positive ways motivate me to do the best for my health.	0	0	0	0	13	10.8	41	34.2	66	55.0
22. I believe that taking some time for relaxation helps me have plenty of energy to care for my health needs.	0	0	0	0	0	0	25	20.8	95	79.2

Table 6 *(Continued)*

Items	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
23. Ability to accept the reality of postpartum changes make me flexible and patient with the physical discomfort that might happen.	0	0	0	0	10	8.3	45	37.5	65	54.2
24. I believe if I do some fun to improve my mood, it will regulate or control myself during blue.	0	0	0	0	12	10.0	44	36.7	64	53.3

Table 7

Frequency and Percentage of HPBs Scores of Postpartum Women (N = 120)

Items	Never		Sometime		Often		Routinely	
	n	%	n	%	n	%	n	%
Health responsibility								
1. I have the physical health checkup in postnatal period.	2	1.7	11	9.2	31	25.8	76	63.3
2. If any unusual sign or symptoms arise I seek care from physicians or other healthcare provider.	0	0	2	1.7	28	23.3	90	75.0
3. If I do not understand the health care instruction, I ask from the healthcare providers as soon as I can.	0	0	6	5.0	28	23.3	86	71.7
4. I ask for information from health professional about how to take good care of myself and my baby.	0	0	6	5.0	26	21.7	88	73.3
5. I do maintain personal hygiene, such as, bathing, or cleaning.	0	0	0	0	29	24.2	91	75.8
6. I inspect my body for physical changes/danger signs, such as, weakness, or abnormal bleeding.	0	0	3	2.5	27	22.5	90	75.0
Physical activity								
7. I perform the household chores.	0	0	2	1.7	18	15.0	100	83.3
8. I do light physical activity.	7	5.8	3	2.5	17	14.2	93	77.5
9. I do Kegel exercise for perineal muscle strength.	102	85.0	3	2.5	5	4.2	10	8.3
10. I avoid vigorous activity such as running, lifting heavy weight.	2	1.7	11	9.1	47	39.2	60	50.0
11. I do balance between work and rest.	2	1.7	10	8.3	43	35.8	65	54.2
Nutrition management								
12. I take food for my physical healing.	0	0	12	10.0	24	20.0	84	70.0
13. I eat balanced food every day.	0	0	9	7.5	24	20.0	87	72.5

Table 7 *(Continued)*

Items	Never		Sometime		Often		Routinely	
	n	%	n	%	n	%	n	%
14. I eat 3 meals every day.	1	0.8	5	4.2	17	14.2	97	80.8
15. I drink enough water.	3	2.5	6	5.0	34	28.3	77	64.2
16. I drink one or two glasses of milk every day.	8	6.7	34	28.3	25	20.8	53	44.2
17. I take more food during pregnancy for enough breastfeeding of my baby.	1	0.8	9	7.5	31	25.9	79	65.8
Spiritual growth								
18. I share a sense of togetherness.	0	0	1	0.8	37	30.9	82	68.3
19. I maintain relationship with others.	0	0	1	0.8	29	24.2	90	75.0
20. I try to learn and understand myself how could I am a happy person.	0	0	28	23.3	0	0	92	76.7
21. I pray for my inner peaceful.	0	0	9	7.5	43	35.8	68	56.7
22. I help others get more strength when she/he feels difficulty.	0	0	0	0	43	35.8	77	64.2
23. I take care of myself for being good health.	0	0	1	0.8	35	29.2	84	70.0
24. I try to keep my healthy in order to be a good mother for nurturing my baby.	0	0	1	0.8	38	31.7	81	67.5
Interpersonal relationship								
25. I discuss my problem with my husband and other family members.	1	0.8	3	2.5	33	27.5	83	69.2
26. I maintain meaningful relationship with others.	0	0	2	1.7	37	30.8	81	67.5
27. I spend time with my family	0	0	4	3.3	28	23.4	88	73.3
28. I get support from family members or close relatives when necessary.	3	2.5	6	5.0	28	23.3	83	69.2

Table 7 *(Continued)*

Items	Never		Sometime		Often		Routinely	
	n	%	n	%	n	%	n	%
29. I resolve any conflict with other through discussion.	0	0	4	3.3	42	35.0	74	61.7
30. I find ways to meet my needs for closeness.	1	0.8	3	2.5	42	35.0	74	61.7
31. I keep myself away from feeling lonely.	2	1.7	6	5.0	36	30.0	76	63.3
Stress management								
32. I get enough sleep.	19	15.8	19	15.8	50	41.7	32	26.7
33. I balance time between work and rest.	4	3.3	6	5.0	55	45.9	55	45.8
34. I share idea with others to manage the stress from my own problem or my baby's problem.	1	0.8	6	5.0	49	32.5	74	61.7
35. I accept the thing in my life that I cannot change.	3	2.5	0	0	17	14.2	100	83.3
36. I find out the specific methods to control my stress.	0	0	5	4.2	49	40.8	66	55.0
37. I practice relaxation, such as sleep, watching TV, meditation in order to cope with stress.	2	1.7	9	7.5	42	35.0	67	55.8
38. I pace myself to prevent tiredness	1	0.8	5	4.2	48	40.0	66	55.0

APPENDIX D

List of Experts

Validity Experts

1. Assistant Professor Dr. Umaporn Boonyasopun,
   Department of Family and Community Health Nursing,
   Faculty of Nursing, Prince of Songkla Universiy, Hat Yai, Thailand.
2. Associate Professor Dr. Sasitorn Phumdoung,
   Department of Obstetric – Gynecologic, and Midwifery Nursing,
   Faculty of Nursing, Prince of Songkla University, Hat Yai, Thailand.
3. Assistant Professor Dr. Karuna Rani Karmakar,
   Department of Obstetrics and Gynecology,
   Comilla Medical College Hospital, Comilla, Bangladesh.

Language Expert

1. Assistant Professor Milon Kanti Datta
   Department of English, Continental Institute of Medical Technology,
   Chittagong, Chittagong, Bangladesh.
2. Assistant Prof. Md. Abul Hasan (Coordinator)
   Department of English, Foreign language training Centre,
   Chittagong College, Chittagong, Bangladesh.
3. Associate. Prof. Mujib Rahaman
   Department of English,
   Chittagong College, Chittagong, Bangladesh.

VITAE

Name Mrs. Dipali Rani Mallick

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Educational Attainment

Degree	Name of Institution	Year of Graduation
Bachelor of Nursing Science	Dhaka University	1998
Bachelor of Laws (L. L. B).	National University	2000

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