A prospective of nutrition intake for pregnant women in Pattani, Thailand

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Abstract

Nutrition is very crucial to well being of pregnant women and the baby. Inadequate nutrition, on the other hand, may lead to many problems during their pregnancy as such anemia, lack of oxygen during delivering baby, low birth weight of baby and baby die inside the mother (Pattani Public Health Center, 2010). Thus, the aim of this study is to employ Health Belief Model (HBM) to explain and predict nutrition intake of pregnant women in Pattani, Thailand. The implication of this study will provide the recommendation for hospital in Pattani in order to influence pregnant women to be aware of their nutrition and help to change pregnant women’ behavior e.g. eating behavior.

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1. Introduction

Nutrition is very important for pregnant women and can be determine the birth weight of the baby. In order to have a full term new born infant with and average weight not less than 3,000 gram, pregnant women are recommended to have normal nutritional status with Body Mass Index (BMI) ranging from 20- 25 kg./m2 (Goldberg, 2002). As supported by Piammongkol et al (2004) stress that low BMI are more possible to have low birth weight babies.

Most of pregnant women know about the necessarily of food, however there are still have the food deficiencies among the pregnant women. Piammongkol et al. (2006) examine the food consumption pattern of Thai-Muslim pregnant women in Pattani Thailand. Ninety five pregnant women in four Tambons at Pattani province were interviewed by cross-sectional method. The result show that pregnant woman consumed all nutrients lower than the minimum acceptable levels based on the Recommended Dietary Allowance (RDA) of Thai people. Along the same line, Piammongkol et al. (2004) pointed out the food deficiencies do not arise from family food distribution, but from general poverty in the family, limited transportation of food from outside the village.

2. Nutrition knowledge

Prenatal nutrition addresses nutrient recommendations before and during pregnancy. Birth weight of the newborn at delivery reflects the sufficiency and the quality of maternal nutrient for the fetus during pregnancy. Prenatal nutrition has a strong influence on birth weight and further development of the infant (Barr & Susan, 2010). However, some of pregnant women are unknowleageable about nutrition and consuming unhealthy food. Different level of education tends to consume nutrition in different ways. As supported by Piammongkol et al. (2004) explain that higher level of formal education inclined to consume health nutrition than lower level of education. They affirmed that education is the most crucial predictor of nutrition intake for pregnant women.

Thus, the purpose of nutrition knowledge is to create recognition and awareness of sufficient nutrition consumption among pregnant women. Though, some of pregnant women are knowledgeable of nutrition but them still facing some problems about nutrition during pregnancy. One main cause of serious problem is inadequate nutrition.

2.1 The causes of an inadequate nutrition

Inadequate nutrition defines as over-nutrition, under-nutrition or unbalanced nutrition. There are many causes of inadequate nutrition namely family food distribution, limited transportation of food, low economic development, level of education (Piammongkol et al., 2004). As supported by Kesa and Oldwage-Theron (2005) and Murakami et al. (2009) mentioned that family income, education and pregnancy body mass index (BMI) were associated with nutrient inadequacy. A long the same line, Sukchan et al. (2010) pointed out factors associating with nutrition intake namely age, education, pre-pregnancy BMI. In addition, Sukchan et al. (2010) explained that a conflict situation in a community as such violent conflict in Narathiwat, it may influence nutrient inadequacy of pregnant women.

The pregnant women behavior also cause inadequate nutrition, unplanned pregnant women i.e. teenager often do not take folic acid supplements because they are unaware of the importance of taking folic acid (Williamson, 2006).
2.2 The effect of inadequate nutrition during pregnancy

Nutrient intake is important to the well-being of pregnant women and the fetus. Inadequate nutrient intake can lead to maternal anemia, increasing the risk for other maternal morbidities and mortality, fetal growth retardation and low fetal birth weight.

Muthayya (2009) states that undernutrition of mother prior to pregnancy created a serious problem of low birth weight or weighing of baby less than 2,500 g at birth mostly occurred in Asia.

In Thailand, the national prevalence of iron deficiency anemia among pregnant women was 13% (Tontisirin & Bhattacharjee, 2001), but in southern region showed strongly number it was as high as 37.8% (Piammongkol et al., 2006). As supported by Sukchan et al. (2010) explain an increasing number of pregnant women who living in southern Thailand especially in Narathiwat had a high prevalence of nutrition intake inadequacy.

Some of researchers mentioned inadequate nutrition by classifying based on nutrition intake. As pointed out by Jaruratanasirikul et al. (2009) divided nutrient into macronutrients (carbohydrate, protein, fat) and micronutrients (iron, calcium, phosphorus, magnesium, zinc, vitamin A, thiamine, riboflavin, niacin, and vitamin C). They study explain pregnant women have adequate macronutrients in rural areas of Songkla province, but they inadequate of micronutrients. Thus, they suggested public education program elaborating the importance of micronutrients information.

2.3 The problems facing pregnant women in Pattani

Pregnant women living in Pattani are facing many problems during their pregnancy as such anemia, lack of oxygen during delivering baby, low birth weight of baby, baby die inside mother during 1998 to 2010 (Pattani Public Health Center, 2010). In year 2003, the numbers of babies’ death were 102 on top of these 48 babies die before seven days. The evidence shows that pregnant women did not fully visit the doctor as the minimum requirement of four times during pregnancy. In year 2005, the number of babies’ death was increased to 106, and death of the babies who die before seven days still high as 40. This problem is due to the high percentage of anemia as showed the second highest number of anemia through 12 years (1998-2010). Currently, the number of babies’ death after delivery still high and the evidence of anemia, lack of oxygen during delivering baby, low birth weight of baby, baby die inside mother still occurred (Pattani Public Health Center, 2010).

The problem is more to awareness of pregnant women on their nutrition. Many organizations such as hospital and healthcare center try to motivate pregnant women on their nutrition. According to Piammongkol et al (2004) recommend to find out what are the integrated strategies should be consider to promote increase intake of nutrient recommendations, for pregnant women who under consumption of food and nutrient which due to poor education, poverty and food availability.

3. Objective of the study

The issue of nutrition intake is very crucial for pregnant women especially in Pattani, Thailand (Pattani Public Health Center, 2010). Pregnant women in Pattani are under consumption of food and nutrients due to poor education, poverty and food availability (Piammongkol et al., 2004). Many studies stress that an inadequate nutrition is one main cause of the babies’ death after delivery (Sukchan et al., 2010; Williamson, 2006; Muthayya, 2009; Jaruratanasirikul et al., 2009). Therefore, this is very critical and sufficient reason to motivate this study.
This study employs Health Belief Model (HBM) to explain the behavior of pregnant women in Pattani, Thailand about their nutrition intake. Therefore, objective of this study can thus be summarized as follows:

1. To determine the relationship between perceived susceptibility and likelihood of pregnant women behavior.

2. To determine the relationship between perceived severity and likelihood of pregnant women behavior.

3. To determine the mediation impact of perceived threat in the relationship between perceived susceptibility and likelihood of pregnant women behavior.

4. To determine the mediation impact of perceived threat in the relationship between perceived severity and likelihood of pregnant women behavior.

4. Theory and relevant researches

The Health Belief Model (HBM) is based on the premise that people are most likely to take health-related action (e.g., eat a healthy diet), if they feel that by doing so they can avoid a negative health condition (Hazavehei et al., 2007). The HBM assume that health is a main concern for most people, and that a given health action will result in the desired goal of eliminating or reducing the perceived serious consequences of a health condition (Coulston et al., 2001).

This research employed Health Belief Model (HBM) as the strategy to promote increase intake nutrition and change pregnant women behavior. The primary constructs of the model are Perceived Susceptibility, means pregnant women’ belief that they are susceptible to poor fetal growth, low birth weight and other diseases when they have an inadequate nutrition; Perceived Severity, knowledge and belief of the consequences of having inadequate nutrition might effect well being of the child later in lives; Perceived benefit, belief concerning the efficacy of following up doctor appointment in reducing the chance of poor fetal growth, low birth weight and other diseases related to inadequate nutrition; Perceived Barriers, belief about the cost of following up about health nutrition with the doctor; Perceived Threat, women who have inadequate nutrition i.e. woman consumed all nutrients lower than the minimum acceptable levels based on the Recommended Dietary Allowance (RDA) of Thai people.
4.1 Conceptual model

![Conceptual Model Diagram]

Figure 1: Adapted from Glanz, K., Rimer, B.K. & Lewis, F.M. (2002). *Health Behavior and Health Education: Theory, Research and Practice*. San Fransisco:Wiley & Sons.

5. Conclusion

The adequate nutrition of any pregnant women is an aim to achieve healthy babies. The idea of understanding health behavior of pregnant women about nutrition intake is being crucial in nowadays. It is because of inadequate nutrition created many problems for pregnant women such as anemia, lack of oxygen during delivering baby, low birth weight of baby and baby die inside the mother. This paper proposes the Health Belief Model (HBM) trying to explain and predict pregnant women behavior. The model clearly enlightens about individual perception, modifying factors and likelihood of pregnant women behavior. Thus, this study may give some evidences for hospital in Pattani as recommendation to motivate nutrition intake of pregnant women. Moreover, a nutrition education program is another suggestion to provide knowledge of food and nutrition in order to increase awareness about healthy food for pregnant women.
References


