ปัจจัยทำนายพฤติกรรมของมารดาในการให้อาหารเด็กวัยเตาะแตะ เกาะชวา อินโดนีเซีย

นางสาวเอ็ทติค พอลลูพิ

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาพยาบาลศาสตรมหาบัณฑิต
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SELECTED FACTORS PREDICTING MATERNAL FEEDING BEHAVIORS FOR TODDLERS, JAVA ISLAND, INDONESIA

Miss Ethic Palupi

A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Nursing Science Program in Nursing Science
Faculty of Nursing
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Thesis Title	SELECTED FACTORS PREDICTING MATERNAL FEEDING BEHAVIORS FOR TODDLERS, JAVA ISLAND, INDONESIA
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เอ็ทติค พอลลูพิ : ปัจจัยทำนายพฤติกรรมของมารดาในการให้อาหารเด็กวัยเตาะแตะ เกาะชวา อินโดนีเซีย (SELECTED FACTORS PREDICTING MATERNAL FEEDING BEHAVIORS FOR TODDLERS, JAVA ISLAND, INDONESIA) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: รศ. ดร.วราภรณ์ ชัยวัฒน์, 114 หน้า.

ความเป็นมา: พฤติกรรมการให้อาหารของมารดามีความสำคัญยิ่งต่อสุขภาพและพัฒนาการของเด็กวัยเตาะแตะ แต่ผลกระทบทางลบต่อสุขภาพของเด็กวัยเตาะแตะในประเทศอินโดเนเซียอันเนื่องมาจากพฤติกรรมการให้อาหารที่ไม่เหมาะสมของมารดากำลังเพิ่มมากขึ้น การวิจัยนี้จึงมุ่งที่จะศึกษาปัจจัยทำนายของพฤติกรรมการให้อาหารเด็กวัยเตาะแตะของมารดา ในเกาะชวา ประเทศอินโดเนเซียเพื่อที่จะสามารถพัฒนาการพยาบาลที่มีประสิทธิภาพในการส่งเสริมให้มารดาเหล่านี้มีพฤติกรรมการให้อาหารเด็กวัยเตาะแตะที่เหมาะสมต่อไป ปัจจัยทำนายที่ศึกษาได้มาจากแนวคิดการส่งเสริมสุขภาพของ Pender (Pender, 2006) และการทบทวนวรรณกรรม

วิธีดำเนินการวิจัย: การวิจัยแบบความสัมพันธ์เชิงทำนายนี้ มีวัตถุประสงค์เพื่อศึกษาว่า อายุ ระดับการศึกษา การรับรู้ประโยชน์ของพฤติกรรมการให้อาหารของมารดา การรับรู้อุปสรรคของพฤตกรรมการาให้อาหารของมารดา การรับรู้ความสามารถของตนเองในการกระทำพฤติกรรมการให้อาหาร และการสนับสนุนทางสังคม สามารถทำนายพฤติกรรมการให้อาหารเด็กวัยเตาะแตะของมารดาได้หรือไม่ กลุ่มตัวอย่างประกอบด้วย มารดาชาวอินโดเนเซียที่อาศัยในเกาะชวา และเป็นผู้ดูแลหลักของบุตรวัยเตาะแตะ จำนวน 110 คนได้มาโดยการสุ่มแบบหลายขั้นตอน เครื่องมือที่ใช้ในการวิจัยประกอบด้วย แบบสอบถามพฤติกรรมการให้อาหารเด็กวัยเตาะแตะของมารดา (MFBQ), แบบสอบถามข้อมูลส่วนบุคคล, แบบสอบถามการรับรู้ประโยชน์ของพฤติกรรมการให้อาหารเด็กวัยเตาะแตะของมารดา (BeFBQ), แบบสอบถามการรับรู้อุปสรรคของพฤติกรรมการให้อาหารของมารดา (BaFBQ), แบบสอบถามการรับรู้ความสามารถตนเองเกี่ยวกับพฤติกรรมการให้อาหารของมารดา(FBSeQ), และแบบสอบถามความรู้สึกหลากหลายมิติเกี่ยวกับความช่วยเหลือทางสังคม (MSPSS) วิเคราะห์ข้อมูลโดยใช้สถิติการวิเคราะห์สมการถดถอยแบบขั้นตอน

ผลการวิจัย: การรับรู้ประโยชน์ของพฤติกรรมการให้อาหารของมารดา, การรับรู้ความสามารถตนเองเกี่ยวกับพฤติกรรมการให้อาหารของมารดา, และการรับรู้อุปสรรคของพฤติกรรมการให้อาหารของมารดา สามารถทำนายพฤติกรรมการให้อาหารเด็กวัยเตาะแตะ ของมารดาได้ 38.5% ($R2 = 0.385$, $F = 4.07$, $p<.05$)

สาขาวิชา พยาบาลศาสตร์ ลายมือชื่อนิสิต .....

ปีการศึกษา 2557 ลายมือชื่อ อ.ที่ปรึกษาหลัก .....

5577211736 : MAJOR NURSING SCIENCE
KEYWORDS: MATERNAL FEEDING BEHAVIORS / PENDER HEALTH PROMOTING MODEL / TODDLER

ETHIC PALUPI: SELECTED FACTORS PREDICTING MATERNAL FEEDING BEHAVIORS FOR TODDLERS, JAVA ISLAND, INDONESIA. ADVISOR: ASSOC. PROF. WARAPORN CHAIYAWAT, D.N.S., A.P.N., 114 pp.

Background: Maternal feeding behaviors are well known as a key to toddlers' health and development. Unfortunately, the negative impacts of inappropriate maternal feeding behaviors on toddlers' health are actually increasing in Indonesia. Therefore, this study aimed to identify the predicting factors of maternal feeding behaviors for toddlers in Java Island in order to develop an effective intervention to prevent the negative impact on toddlers' health. The predicting factors were derived from Pender's Health Promotion Model (2006) and also from empirical literature related to maternal feeding behaviors.

Methods: A predictive correlational research design was used in this study to identify whether maternal age, maternal level of education, perceived benefits of maternal feeding behaviors, perceived barriers to maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy and social support could predict maternal feeding behaviors. One hundred and ten Indonesian mothers who were the main caregivers of their toddlers and lived on Java Island were obtained through multistage random sampling. The research instruments included the Maternal Feeding Behaviors Questionnaire (MFBQ), the Demographic Characteristic Questionnaire, the Perceived Benefits of Maternal Feeding Behaviors Questionnaire (BeFBQ), the Perceived Barriers to Maternal Feeding Behaviors Questionnaire (BaFBQ), the Perceived Maternal Feeding Behaviors Self-efficacy Questionnaire (FBSeQ) and the Multidimensional Scale of Perceived Social Support (MSPSS). Data were collected at the participants' houses. The predictive factors for maternal feeding behaviors were examined by stepwise regression analysis.

Results: Perceived benefits of maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy and perceived barriers to maternal feeding behaviors could explain 38.5% of variance in maternal feeding behaviors (R^2 = .385, F = 4.07, p<.05).

Field of Study: Nursing Science Student's Signature .....

Academic Year: 2014 Advisor's Signature .....

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CHAPTER I
INTRODUCTION

Background and significance of the study

Maternal feeding behaviors are the activities of mothers related to the maintenance of adequate food intake for their toddlers, which include providing age-appropriate and healthy foods, enhancing good behaviors, and promoting a pleasant eating environment (Lusmilasari, Chaiyawat, & Rodcumdee, 2015). This behavior is one kind of health promotion behaviors.

Appropriate maternal feeding behaviors are well recognized as a key to toddlers' health and development. Many benefits of these behaviors for the toddlers, such as to protect them from many diseases, increase their immune, maintain their normal height and weight, support their developmental tasks, enhance self-regulate feeding, etc. (Aggarwal, Verma, Faridi, & Dayachand, 2008; Berlin, Davies, Lobato, & Silverman, 2009; Birch, & Ahluwalia, 2006; Kaur, Li, Nazir, Choi, Resnicow, Satter, 1995).

Despite appropriate maternal feeding behaviors that are beneficial for toddlers, the number of inappropriate maternal feeding behaviors is actually increasing in Indonesia, especially on Java Island, which is the most crowded island in Indonesia. Inappropriate maternal feeding behaviors occurred in all provinces in Java Island leading to numerous negative effects on the health of their children (Badan Penelitian dan Pengembangan Kesehatan, 2013).

The practice of eating outside the home and consuming instant or fast food is becoming more common in Java Island, Indonesia. In the past, people believed that the best dining atmosphere was consuming their own home-cooked food with their family. However, that culture is decaying. Moreover, disasters such as earthquake, flood, volcanic eruption, etc. occurred on this island more often than other islands. Under emergency conditions, people only consumed donated food (mostly instant food), and mothers also gave that kind of food to their toddlers. Mothers have recently

become more accustomed to giving instant or fast food to their toddlers and eating outside the home with their toddlers (Irin, 2008).

Although mothers in West Java think ready-to-eat food is not hygienic for consumption, practices such as purchasing chicken porridge from street vendors for their toddlers' breakfast is very common. This condition leads to toddlers' physical health problems, such as diarrhea, toxicity, infection, typhoid, etc. Empirical studies have supported that the incidence of diarrhea has increased after the introduction of complementary food due to the unhygienic food preparation, particularly in children aged 6 to 24 months (Utomo, Fitria, Sulacha, Dachija, & Supeni, 2000).

Inappropriate maternal feeding behaviors can also hinder toddlers' healthy food (fruits and vegetables) preferences. Parents who perform inappropriate feeding behaviors tend to make their children dislike fruits and vegetables (Bante, Elliott, Harrod, & Haire-Joshu, 2008). They use unhealthy (high in fat and calories) foods to encourage their children to eat healthy foods. In fact, these encouragements have led to a tendency for children tend to eat much more unhealthy food than healthy food (Tucker, Irwin, He, Bouck, & Pollett, 2007; Jefferson, 2006). Consequently, unhealthy and unbalanced foods can deteriorate children's health and cause numerous health problems such as malnutrition, anemia, cardiovascular disease, diabetes, cancer, polio, decreased brain power, etc. In 2011, the total number of children under five years old in Special Region of Yogyakarta Province who malnutrition was 0.98%, which is approaching the national's threshold (1%) (Made, 2010). It was also found in Surakarta, Central Java Province that the number of malnourished toddlers with categorized as stunded was approximately 57.61%, underweight 46.74%, and wasted 9.78%. The prevalence of anemia in toddlers was 25% (Zulaekah, Purwanto, & Hidayati, 2014).

Using food as a reward for good behaviors and withholding food as a punishment for inappropriate behaviors has also been found to be inappropriate feeding behaviors. Mothers promise a treat or dessert such as sweet foods that children like most to encourage them to eat a meal (Snethen, Hewitt, & Petering, 2007; Stanek, Abbott, & Cramer, 1990). As a result, sweet foods put children at higher risk for dental caries, obesity, cardiovascular disease, hyperactivity, cancer,

diabetes, etc. (Mayasari, 2013). It was found in Jakarta Province that the prevalence of toddlers with Early Childhood Caries (ECC) was 52.7% (Sugito, Djoharnas, & Darwita, 2008).

In order to prevent the above possible health problems on toddlers, in Indonesia there was a community health care system to support the health and development of children under five years olds namely *Posyandu*, Pos Pelayanan Terpadu (integrated service post in Indonesian). It is a monthly clinic for children, which provide health assessment, monitoring nutritional status, monitoring height and weight, nutritional supplements, diarrhea prevention, vaccinations, and health promotion related to children's health, nutrition and development (Kementrian Kesehatan RI, 2012). Every health care provider in *Posyandu* has responsibilities to do the above programs including nurses.

Pediatric nurses need to identify maternal feeding behaviors that support, or harm, the toddlers' development and health. The nurse is a key position to help establish positive dynamics around feeding between mothers and toddlers, to give anticipatory guidance when feeding relationships are potentially problematic, and to generate intervention that solve problem. Furthermore, pediatric nurses are in a key position to help mothers learn to effectively feed their toddlers (Satter, 1995).

Recently, some efforts to promote appropriate maternal feeding behaviors have been implemented in Indonesia. Unfortunately, Badan Penelitian and Pengembangan Kesehatan (2013) the incidence of diarrhea and malnutrition with negative impacts on inappropriate maternal feeding behaviors has increased. In order to prevent the potentially negative impacts on toddlers' health, pediatric nurses have a responsibility to encourage mothers to provide appropriate maternal feeding behaviors and also increase the health care services. In consideration of having an effective intervention to decrease the number of inappropriate maternal feeding behaviors, nurses need to know the factors that related to maternal feeding behaviors. Without this piece of information, pediatric nurses may not be able to achieve an effective nursing intervention to promote maternal feeding behaviors in toddlers.

Regarding the aims to promote toddlers' health and avoid preventable illness related to food intake, maternal feeding behaviors can be considered as health-

promoting behavior. Therefore, the hypothesized predicting factors in this study were selected based on Pender's Health Promotion Model (HPM) and empirical literature related to maternal feeding behaviors.

Several previous studies about maternal feeding behaviors were found in literature review. It was found that maternal feeding behaviors associated with maternal age (Hope, 2012; Pender, Murdaugh, & Parsons, 2006); maternal level of education (Anderson, Hughes, Fisher, & Nicklas, 2008; Best, Sun, de Pee, Sari, Bloem, & Semba, 2007; Brown & Ogden, 2004; Ribeira, Brown, & Akuamoa-Boateng, 2009; Sriram, Soni, Thanvi, Prajapati, & Mehariya, 2013; WHO, 1998; Guldan et al., 1993); perceived benefits of maternal feeding behaviors (Alli, 2012; Berlin et al., 2009; Pender et al., 2006; Satter, 1995; Sitthideth, 2014); perceived barriers to maternal feeding behaviors (Best et al., 2008; Darmon, Briend, & Drewnowski, 2004; Pender et al., 2006; Saied, Mohamed, Suliman, & Anazi, 2013; Spruijt-Metz, Li, Cohen, Birch, & Goran, 2006); perceived maternal feeding behaviors self-efficacy (Eksioglu & Ceber, 2011; Kolopaking & Bardosono, 2011; Leahy-Warren, Helen, Agnes, & Paul, 2013; Pender et al., 2006); and social support (Khoury, Moazzem, Jarjoura, Carothers, & Hinton, 2005; Matich & Sims, 1992; Pender et al., 2006; Shealy, Benton-Davis, & Grummer-Strawn, 2005). However, there was could not be found the study about the predicting factors of maternal feeding behaviors for toddlers. Understanding the predicting factors of maternal feeding behaviors for toddlers is important for nurses to predict the mother's ability to provide appropriate feeding behaviors in order to prevent the effects and promote healthy children.

Objectives of the study

1. To describe the maternal feeding behaviors in Java Island, Indonesia.
2. To examine the relationships between maternal age, maternal level of education, perceived benefits of maternal feeding behaviors, perceived barriers to maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, social support and maternal feeding behaviors.

3. To identify the predicting factors of maternal feeding behaviors for toddlers in Java Island, Indonesia.

Research hypothesis and rationale

According to Pender et al. (2006), there are three categories of HPM, namely individual characteristics and experiences, behavior-specific cognitions and affect, and behavioral outcome. In detail, ten concepts from those three categories, including prior related behavior, personal factors, perceived benefits of action, perceived barriers to action, perceived self-efficacy, activity-related affect, interpersonal influences, situational influences, immediate competing demands and preferences, and commitment to plan of action, can influence health-promoting behavior (Pender et al., 2006). The HPM is applicable to many kinds of health-promoting behaviors. In order to appropriately apply to maternal feeding behaviors, those ten concepts were compared and contrasted to previous studies on maternal feeding behaviors. As a result, only six possible predictors of maternal feeding behaviors were identified. Two of the predictors, maternal age and maternal level of education, were taken from the personal factors which include in the category of individual characteristics and experiences in Pender's HPM. The other four, perceived benefits of maternal feeding behaviors, perceived barriers to maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and social support, belong to the behavior-specific cognitions and affect.

Maternal Age. According to Pender et al. (2006), individual characteristics and experiences can influence behavior outcome, and age is one of the individual characteristics and experiences in Pender's HPM, which is included in biological personal factor of individual. Maternal age could influence how mothers provide the maternal feeding behaviors. It is supported by previous studies which found that age was one of the personal factors that could influence maternal feeding behaviors (Hope, 2012). Older mothers tend to be more mature, more patient, and more confident in parenting, as well as to have greater experience in parenting. It is clear that maternal feeding behavior is one of the parenting activities (Steelman & Westman, 2010) that later influence children's eating behaviors (Ventura & Birch,

2008). Therefore, maternal age had a positive relationship with maternal feeding behaviors for toddlers in Java Island, Indonesia.

Maternal Level of Education. Pender et al. (2006) stated that level of education is one of the sociocultural personal factors that are included in individual characteristics and experiences. Empirical studies were also supported that maternal level of education associated with maternal feeding behaviors (Best et al., 2007; Brown & Ogden, 2004; Ribeira et al., 2009; Sriram et al., 2013). Maternal level of education had a positive impact on maternal feeding behaviors (Sriram et al., 2013), and improved child health and growth (Best et al., 2007; Brown & Ogden, 2004; Ribeira et al., 2009). Mothers with higher level of education tended to have more abilities to process information about maternal feeding behaviors; to use health care facilities; to keep the environment cleaner; to acquire skills of feeding; and to model behavior including maternal feeding behaviors (WHO, 1998). Thus, maternal level of education had positive relationship with maternal feeding behaviors for toddlers in Java Island, Indonesia.

Perceived Benefits of Maternal Feeding Behaviors. According to Pender et al. (2006), perceived benefits of action is one concept of behavior-specific cognitions and affect in Pender's HPM. Perceived benefits of action can directly and indirectly influence the health-promoting behavior. Mothers more likely provide appropriate maternal feeding behaviors if they perceived that the benefits of maternal feeding behaviors are high considered. It was found that if mothers perceived the benefits of maternal feeding behaviors (such as increase toddlers' immune, diseases protection, etc.), it could influence how mothers performed maternal feeding behaviors appropriately (Walingo & Mutuli, 2014). It was also found that mothers' perception related to the benefits of feeding could influence them in making decisions to maternal feeding behaviors (Wickham, 2011). Therefore, perceived benefits of maternal feeding behaviors had a positive relationship with maternal feeding behaviors for toddlers in Java Island, Indonesia.

Perceived Barriers to Maternal Feeding Behaviors. In Pender's HPM, perceived barriers to action is one concept of behavior-specific cognitions and affect that directly or indirectly can influence behavioral outcome. Barriers are the blocks,

hurdles and personal costs of undertaking a certain behavior and may be real or imagined (Pender et al., 2006). The barriers to maternal feeding behaviors could include lower income and the time mothers to spend outside the house. Lower income was one of the barriers in providing healthy food because unhealthy food was cheaper for them (Best et al., 2008; Darmon et al., 2004; Spruijt-Metz et al., 2006). Mothers perceived that the longer they spend their times in working outside, the more difficult for them to provide an appropriate feeding behavior for their children, because they did not have enough time to take care their children, and their children tended to stay longer with other family members or neighbor (Saied et al., 2013). Thus, perceived barriers to maternal feeding behaviors had a negative relationship with maternal feeding behaviors for toddlers in Java Island, Indonesia.

Perceived Maternal Feeding Behaviors Self-Efficacy. According to Pender et al. (2006), perceived self-efficacy is one concept of behavior-specific cognitions and affect in Pender's HPM. It can influence behavior outcome directly or indirectly. Pender et al. (2006) stresses the facts that self-efficacy is not concerned with the skills that one has, but rather with the personal decision of what one can do with whatever skills one possesses in terms of health behavior. Perception of skill and competence in a particular domain motivate individuals to engage in those behaviors in which they excel. Feeling efficacious and skilled in one's performance is likely to encourage in the target behavior more frequently than is feeling inept and unskilled (Pender et al., 2006). Self-efficacy influences perceived barriers to action, with higher efficacy resulting in lowered perception of barriers. Self-efficacy motivates health-promoting behaviors directly by efficacy expectations and indirectly by affecting perceived barriers and level of commitment or persistence in pursuing a plan of action (Pender et al., 2006). Maternal self-efficacy had relationships with feeding behaviors (Eksioglu & Ceber, 2011; Kolopaking & Bardosono, 2011; Leahy-Warren, et al., 2013) and mothers' capacity to provide an adaptive, stimulating, and nurturing child-rearing environment (Kolopaking & Bardosono, 2011). It was found in Indonesia that mothers who perceived high self-efficacy could access and provide food for their families, and they were more likely to feed their children appropriately (Eksioglu & Ceber, 2011; Leahy-Warren et al, 2013). Therefore, perceived maternal feeding

behaviors self-efficacy had a positive relationship with maternal feeding behaviors for toddlers in Java Island, Indonesia.

Social Support. According to Pender et al. (2006), one concept of behavior-specific cognitions and affect in Pender's HPM is interpersonal influences. It includes norms, social support, and modeling. The primary sources of interpersonal influences are family, peers, and health care providers (Pender et al., 2006). Social support that mothers received from family members, friends, and also health care providers, associated with better maternal feeding behaviors (Khoury et al., 2005; Matich & Sims, 1992; Shealy et al., 2005). Mothers who perceived high social support will be associated with better maternal feeding behaviors because they tend to be successful in making decision related to feeding behaviors. In order to have better feeding behaviors, mothers got information and support from their family members, friends, and also health care providers related to providing appropriate maternal feeding behaviors (Khoury et al., 2005; Matich & Sims, 1992; Shealy et al., 2005). Thus, social support had a positive relationship with maternal feeding behaviors for toddlers in Java Island, Indonesia.

Based on the rationales above, there were positive associations between maternal age, maternal level of education, perceived benefit of maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, social support and maternal feeding behaviors. However, there was a negative association between perceived barriers to maternal feeding behaviors and maternal feeding behaviors.

Therefore, the **hypothesis in this study was that maternal age, maternal level of education, perceived benefits of maternal feeding behaviors, perceived barriers to maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and social support could predict maternal feeding behaviors.**

Scope of the study

The target population in this study was mothers who had toddlers (1-3 years old) and lived in Java Island, Indonesia. The dependent variable in this study was maternal feeding behaviors for toddlers, and the independent variables were maternal

age, maternal level of education, perceived benefits of maternal feeding behaviors, perceived barriers to maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and social support.

Operational definitions

Maternal feeding behaviors for toddlers were the activities of Indonesian mothers related to the maintenance of adequate intake of food for their toddlers involving providing age-appropriate and healthy foods; enhancing good eating behaviors; and promoting a pleasant eating environment. It was measured by "Maternal Feeding Behaviors Questionnaire" that was modified from Parental Feeding Behaviors Questionnaire by Lusmilasari et al. (2015).

Maternal age was defined as the chronological number of years living since birth of Indonesian mothers in Java Island who had toddlers. It was measured by Demographic Characteristic Questionnaire that was developed by researcher.

Maternal level of education was defined as the number of years Indonesian mothers in Java Island who had toddlers studied in the formal education starting from the first grade in the elementary school. It was measured by Demographic Characteristic Questionnaire that was developed by researcher.

Perceived benefits of maternal feeding behaviors were the positive outcomes of appropriate maternal feeding behaviors recognized by Indonesian mothers in Java Island who had toddlers. These positive outcomes occur in either mothers or toddlers. Benefits for mothers include maternal happiness when toddlers eat well with age-appropriate, healthy foods and good eating behaviors with strong relationships between mothers and toddlers. The benefits occurring in toddlers include developmental support, disease prevention, appropriate weight and height maintenance, positive eating behavior maintenance and prevention of malnutrition. It was measured by "Perceived Benefits of Maternal Feeding Behaviors Questionnaire (BeFBQ)" that was developed by researcher.

Perceived barriers to maternal feeding behaviors were the obstacles of appropriate maternal feeding behaviors identified by Indonesian mothers in Java Island who had toddlers which included difficulty, inconvenience, expense, and lack of time. It was measured by "Perceived Barriers to Maternal Feeding Behaviors Questionnaire (BaFBQ)" that was developed by researcher.

Perceived maternal feeding behaviors self-efficacy was the capability related to maternal feeding behaviors identified by Indonesian mothers in Java Island who had toddlers. It was measured by "Perceived Maternal Feeding Behaviors Self-Efficcay Questionnaire (FBSeQ)" that was developed by researcher.

Social support was the assistance that Indonesian mothers in Java Island who had toddlers received from family, friends, or significance others. It was measured by "Multidimensional Scale of Perceived Social Support (MSPSS)" that was developed by Zimet GD, Dahlem, Zimet SG, & Farley (1988).

Expected benefits

1. Nurses can use the findings to guide and develop a program to promote appropriate maternal feeding behaviors for toddlers in Java Island, Indonesia.

2. Nurse administrators and policy makers may use the findings to develop a program to prevent the negative impacts of inappropriate maternal feeding behaviors for toddlers in Java Island, Indonesia.

CHAPTER II
LITERATURE REVIEW

This chapter presents a comprehensive review of the literature that focuses on major concepts for this study. The literature review consists of four parts: 1) toddlers' health and development related to feeding, 2) maternal feeding behaviors, 3) Pender's HPM, 4) factors related to maternal feeding behaviors, and 5) health system in Indonesia.

Toddlers' health and development related to feeding

According to Wong (2009), the term *terrible twos* has often been used to describe the toddler years, the period from 12 to 36 months of age. It is a time of intense exploration of the environment as children attempt to find out how things work; what the word "no" means; and the power of temper tantrums, negativism, and obstinacy. "Getting into things" is their way to learning about their world, especially relationships. Toddler frequently necessitates guidance from others when parent and toddler face the struggles of feeding, toilet training, limit setting, and sibling rivalry.

Started during the first year of life, toddlers continue the process of separation and individuation. And into and through the second year, feeding gives the creative toddler many opportunities to explore, test limits, and learn about separateness. Toddlers do not benefit from being fed on demand. In fact, failing to provide toddlers with the structure and limits they need in feeding, as in other areas amounts to neglect. To mature optimally, toddlers need the structure of regularly scheduled meals and snacks, with restriction of food handouts between these scheduled times. They come to the table hungry and willing to approach the food there, and they are able to eat with concentration and focus until they are full (Satter, 1995).

Although 2-year-old children are not necessarily capable of seeking out food without their caregiver's presence, they are very capable of refusing to eat and are able, therefore, to demonstrate resistance to the imposition of pressurizing feeding

practices (Farrow & Blissett, 2008). Parents, for their part, must provide a variety of food that has been modified in simple ways so the toddler can both be successful in eating familiar foods and be challenged by new food experiences (Satter, 1986 as cited in Satter, 1995). Parents must also allow the toddler to choose from what they have made available. Unlike adults, toddlers are unlikely to eat some of the things served on the table. They may eat a particular food with great enthusiasm one day and turn it down the next day. They are also likely to eat great quantities of food one time and virtually nothing the next. They tire of even their favorites. Yet studies show that, over time, toddlers tend to eat a variety of food and achieve a nutritionally adequate diet (Rolls, 1986 as cited in Satter, 1995).

Toddlers are naturally neophobic: they do not like new food. They tend to be more aware of new foods and cautious about approaching them than infants who are just learning to eat table foods. Despite this initially negative reaction to new foods, they do learn to accept them with time and repeated neutral exposure. To master a food, toddlers first watch grownups eat it. Then the toddlers put the food in their mouth and take it out again. Parents misinterpret this taking-out-again behavior as food rejection, when it is actually children's way of gaining experience with the food. Eventually, after many exposures, they master the food. Trying to hurry the process backfires and only slows it down. In fact, if pressure is brought to bear on children's food acceptance they eat less well, not better (Birch, 1987 as cited in Satter, 1995).

With food regulation, as with food selection, putting pressure on a toddler's earing can be counterproductive. Some toddlers submit to their parent's pressure to the extent that they overeat and gain too much weight (Klcsges et al., 1986 as cited in Satter, 1995) or have difficulty with precisely regulating their food intake (Johnson and Birch, 1994 as cited in Satter, 1995). Other toddlers resist parent's pressure by refusing to eat. At times, the struggles for autonomy and control of feeding becomes so vehement and entrenched that some children under eat and lose weight (Chatoor et al., 1986 as cited in Satter, 1995).

Toddlers put food in their mouths more readily when they were following the example of their mothers than when they observed the same modeling behavior by a stranger. Children tended to sample an unfamiliar food more readily when an adult

was eating it, than when it merely was offered. Children also resembled their parents in food neophobic. Modeling, however, may be minimally influential in changing children's food practices (Nicklas, Baranowski T., Baranowski JC., Cullen, Rittenberry, & Olvera, nd).

From a biomedical perspective, the first two years of life is a critical period for cognitive development, during which nutritional deficits are hypothesized to directly limit the growth and development of the brain. Biomedical scientists conclude that anthropometric indicators of poor nutritional status are consistently associated with poor cognitive outcomes. In less developed countries, the inadequate living environment poses a great threat to the child's growth and cognitive development, which in turn could affect learning ability and school achievement, and ultimately limit the performance in the labor market (Liu, Mroz, & Adair, 2007).

Based on the above toddlers' development related to the feeding, maternal feeding behaviors can be called as the key of toddlers' health and development. If mother do maternal feeding behaviors inappropriately, it can give negative impacts on toddlers' health such as malnutrition both underweight and obesity, toxicity, infection, diarrhea, typhoid, anemia, polio, diabetes, decreased brain power, cancer, dental carries, cardiovascular disease, hyperactivity, cancer, diabetes, etc. (Badan Penelitian dan Pengembangan Kesehatan, 2013; Berlin et al., 2009; Mayasari, 2013; Utomo et al., 2000).

It is essential to recognize that many interventions to improve child health and nutritional status rely on someone's behavior, often the mother. For complementary feeding to be successful, proper food and nutrients in the household or community must be available, and feeding behavior must be appropriate to assure that the foods are delivered successfully to the child. Child survival, growth and development are affected directly by nutrient intake and health, and these are influenced in turn, by the underlying factors of household food security, health care services and healthiness of the environment, and care of the child.

Maternal feeding behaviors

Feeding is essential for growth and development and may affect the next eating habits (Briefel, Reidy, Karwe, & Devaney, 2004). Feeding directly affects child growth and development in three ways: (1) through the feeding method and its preparation, feeding exposes the child to pathogens; (2) through the provision of active immunizing substances, most notably from breastmilk, feeding determines the child's immune status; and (3) through the shaping of physical and biochemical characteristics, independent of the effects of genetics or infectious diseases, feeding determines the child's nutritional status (Popkin et al., 1986 as cited in Utomo et al., 2000).

Feeding in childhood requires the right balance of body-building nutrients and energy. Nutrients that come from food are used for the growth, maintenance, and repair of the body (Dickey, Boedihardjo, & Bardosono, 2010). And appropriate feeding is critical to the survival, health, well-being, and development of all children especially in the first two year of life (Berlin et al., 2009; Department of Health, 2007).

Parental feeding behaviors

Feeding is a reciprocal process that depends on the capabilities between parents and children (Satter, 1995). Especially in toddler, parents have a major role in feeding because toddlers still have some limitations in making known their need for self-regulation of feeding. Parents play a central role in shaping an eating environment, which provides a context for the child's early eating experience (Birch & Fisher, 1998 as cited in Birch et al., 2001).

Lusmilasari et al. (2015) defined feeding behavior of parents with toddlers as the activities of parents related to the maintenance of an adequate intake of food for their toddlers involving to providing food that are well-balanced, healthy, and safe; helping the toddlers to develop and maintain good eating behavior; and promoting a pleasant eating environment.

Parental feeding behaviors shape what foods the child is offered, exert control over the timing, size, and social context of meals and snacks, and set the emotional

tone of eating occasions (Anderson et al., 2008; Birch & Fisher, 1995 as cited in Birch et al., 2001). Parental feeding behaviors are the ways of parents behave to provide appropriate intake of food including choosing and preparing food and maintaining mealtime structure (such as social interaction during mealtime, maintaining the structure of meals and snacks on a consistent schedule, providing a controlled pleasant environment for meals free from distraction, to provide condition and experiment that encourage autonomy or independent feeling) for their toddlers to promote and maintain weight gain (growth) (Satter, 1995).

Parental feeding relationship is the complex of interactions that takes place between parent (primary caregiver) and the child as they engage in food selection, ingestion, and regulation. The optimal feeding relationship is one in which parents and children have distinct roles and duties as specified in the division of responsibility (Satter, 1995). Children have considerable capability with regulating their own intake and with eating, and that the manifestation of those capabilities depends on parents executing feeding tasks in an effective and developmentally appropriate manner (Berlin et al., 2009).

Feeding requires a division of responsibilities of parents and children. With regard to parent's responsibilities, Satter (1999) argued that the parents are responsible for the structure of feeding, or the "what, where, and when" of feeding. More specifically, parents' mealtime responsibilities are choosing and preparing food, maintaining the structure of meals and snacks on a consistent schedule, providing a controlled pleasant environment for meals free from distractions, and setting the expectation that children will behave appropriately. Parents are responsible for what children are offered to eat, choose appropriate food, provide structured meals and snacks (after the first year), and ensure a pleasant eating environment (Satter, 1987 as cited in Satter, 1995). If parents successfully execute their tasks, children will increasingly manifest capabilities with eating behavior and food acceptance, retain the ability to regulate food intake, grow in a constitutionally appropriate way, and maintain positive eating attitudes and behaviors. With regard to the division of responsibility, Satter (1999) argued that the child is responsible for regulating his or her intake, or the "how much" and "whether" of eating. More specifically, the child is

responsible for eating according to his or her feelings of hunger and satiety, and choosing the type and amounts of food he or she wants to eat (Berlin et al., 2009).

The most influential aspect of the young child's immediate environment is the family. Early parental influence was associated with the development of a child's relationship with food later in life. For example, young adult eating habits such as eating all food on the plate, using food as an incentive or threat, eating dessert, and eating regularly scheduled meals were related to the same feeding practices reportedly used by their parents during their childhood. Young adults' consideration of nutrition when selecting food was related to the memory of their parents talking about nutrition during childhood. This is intriguing evidence that early parental influences can have long term influences on a person's dietary practices. Parents can influence children's dietary practices in at least five ways: controlling availability and accessibility of foods and meal structure, food modeling, food socialization practices, and food-related parenting style (Nicklas et al., nd).

Maternal feeding behaviors

Parents, particularly mothers, have a major influence in feeding practices. Maternal feeding behaviors refers to the activities of mothers related to the maintenance of adequate intake of food for their toddlers involving to providing age-appropriate and healthy foods; enhancing good eating behaviors; and promoting a pleasant eating environment. The activities of the parents will be described as : (1) providing age-appropriate and healthy foods is defined as activities of mothers for their toddlers that involve acquiring and gathering information to know about toddlers diet and healthy food; making judgments and decisions in order to choose age-appropriate and healthy foods; and taking action regarding to provide a variety of age-appropriate and healthy foods; (2) enhancing good eating behaviors is defined as activities of mothers for their toddlers that involve acquiring and gathering information to know about the characteristic of toddlers eating behaviors; making judgments and decisions in order to enhance a good eating behaviors of toddlers; and taking action regarding to enhance a good eating behaviors of toddlers; and (3) promoting a pleasant eating environment is defined as activities of mothers for their toddlers that involve acquiring and gathering information to determine a pleasant

eating environment; making judgments and decisions in order to identify and prevent hazard during feeding; and taking action regarding to promote a pleasant eating environment (Lusmilasari et al., 2015).

Nurses are in a unique position to take the lead in helping mothers develop appropriate feeding practices. Appropriate maternal feeding behaviors can be divided into four types: (1) adaption of the feeding method to the psychomotor abilities of the child (spoon handling ability, ability to muncher chew, use of finger foods); (2) the activeness of the feeder, including encouragement to eat, offering additional foods, and providing second helping; (3) responsivity of the feeder, including the affective relationship between child and feeder, timing of feeding, and positive or aversive style of interacting; and (4) the feeding situation, including the organization, frequency, and regularity of the feeding situation, whether the child is supervised and protected while eating and by whom, distraction during eating events, etc. (Satter, 1995).

Inappropriate feeding behaviors and the effects of inappropriate feeding behaviors

Even though appropriate feeding behaviors support children's developmental tasks and health, mothers might inadvertently do inappropriate feeding. There were three caregiver styles that have been conceptualized: controlling, laissez-faire, and responsive (Birch & Fisher as cited in Ha et al., 2002). In a highly controlled style of feeding, the caregiver has the intention to control when and how much the child eats, either through dietary restriction or overfeeding. This style of feeding has been observed in the United States and has been associated with pediatric obesity risk. At the opposite end of the continuum, caregivers may provide little physical help or encouragement to eat, and this feeding style may be based on cultural beliefs that children know when and how much they should eat or that children should develop independent feeding styles at an early age. This "laissez-faire" or passive style describes low levels of caregiver-child interaction during feeding episodes. The caregiver may not understand or respond to her child's cues of hunger or satiety clearly, and this may be particularly maladaptive when children have low appetites and reject food. Indeed, the UNICEF care and nutrition conceptual framework encourages active feeding as a programmatic (Ha et al., 2002).

Restrictive feeding practices with 2-year-old children may, therefore, be relatively covert, and the use of restriction with children under the age of 2 years may be a successful strategy that prevents overweight and actually predicts lower child weight in the short term (Farrow & Blissett, 2008). The use of parental control in child feeding is hypothesized to have adverse effects on the child's subsequent eating and weight status by impeding the child's opportunities for the development of self-control in the eating domain (Birch et al., 2001). Obese mothers were less ‘‘controlling’’ (Wardle, Sanderson, Guthrie, Rapoport, & Plomin, 2002). It is possible that parents did not force their kids to eat because they were perceptive to the increased risk of overweight in their children.

The use of pressure to eat has been associated with lower child fat mass, whereas the use of restriction has been linked with greater fat mass in children. Mothers reported greater concerns about overweight and less pressure to eat for their heavier compared with their lighter children. However, controlling feeding practices, monitoring and restriction, were not associated with within-family differences in sibling weight (Farrow & Blissett, 2008). Specifically, parental-feeding practices such as restricting intake have been associated with higher preference for and increased consumption of restricted foods, consumption of restricted foods in the absence of hunger, and increased overweight in children. Pressure to eat by parents was correlated with lower weight (Birch et al., 2001) and with lower fat mass in children (Spruijt-Metz et al., 2002 as cited in Kaur et al., 2006).

The other inappropriate maternal feeding behaviors such as using food as a reward for good behavior and withholding food as a punishment for inappropriate behavior were also found. For instance, parents promise a treat or a dessert, which is sweet things, to encourage their children to eat a meal (Snethen et al., 2007; Stanek et al., 1990). On the other hand, sweet things make children in higher risk of obesity, dental caries, cardiovascular disease, hyperactivity, cancer, diabetes, etc. (Mayasari, 2013). Olvera-Ezzell and colleagues told Birch et al. (2001) that Mexican American mothers were unlikely to use forced compliance, reward, threat, or bribe in their attempts to influence the amounts their children consume (Birch et al., 2001).

In Indonesia, the use of commercial instant children food is very common. Though rates are higher in urban areas, the practice spans the country. Instant children food, although sometimes fortified, often contains high amounts of sugar, little or no fat, and little or no protein, thus putting a child at risk for deficiency if other foods are not added. The children of mothers who work from home or outside the home less than half time are fed less often and have lower weight for age z score than those who work longer hours outside the home and entrust the care of their children to someone else. These phenomena associated with diarrhea act to steal macro and micronutrients from a child's body, reducing the energy available at the cellular level. Over time, having fewer nutrients available results in stunted growth, intellectual impairment, and diminished productive capacity (Dickey et al., 2010).

Many foods consumed by young children in Indonesia were bought from small food vendors in the neighborhood such as the ready-made foods or *jajanan* (cooked food sold by the food vendors). The survey showed that 54% of the foods consumed by children were bought from the food vendors, and the percentage of children consuming *jajanan* increased with increasing age. Unhygienic and unsecured foods can lead to increasing the incidence of diarrhea in toddler (Utomo et al., 2000). Approximately 12 million children in developing countries die before the age of five years, and 70% of those deaths are due to five problems including diarrhea (Bani, Saeed, & Al-Othman, 2002). In Indonesia, diarrhea contributed to 18% of the mortality rate in 2006 and the incidence of diarrhea increase after introduction of complementary food due to the unhygienic preparation of weaning food, especially in children age aged 6 to 24 months (Utomo et al., 2000). In areas with poor food or water hygiene, early introduction of complementary foods is associated with increased morbidity for diarrheal diseases and development of malnutrition (Aggarwal et al., 2008).

Parents who use inappropriate feeding behaviors are more likely decrease children' healthy food (such as fruits and vegetables) preferences (Bante et al., 2008). It was found that many parents used unhealthy food (high in fat and calories) to encourage their children to eat healthy food (Jefferson, 2006; Tucker et al., 2007). Unhealthy and unbalanced food can impact to the children's health, such as anemia,

malnutrition, cardiovascular disease, diabetes, cancer, polio, decreasing brainpower, etc. (Badan Penelitian dan Pengembangan Kesehatan, 2013).

Practices related feeding in Indonesia such as; (1) parenting style is permissive and families give into children's pleas for unhealthy foods and pacify them with junk food; (2) there is an over-reliance on cereals for complementary feeding, and a lack of vegetables, fruits, animal products, and other proteins and fats in the average diet; (3) monthly growth monitoring (*Posyandu*) activities take place outside in the hot sun and are of poor quality, so mothers do not perceive their benefit and this is a missed opportunity for counseling, growth promotion, and other services; (4) street foods and store-purchased junk foods are a major part of the diet, though in most cases they are not appropriate for children under five. The reality is that many *Posyandu,* staffed by gracious volunteers (*Kaders*) from the community who often have little or no training in anthropometry, counseling, child feeding, and malnutrition (Dickey et al., 2010).

In Indonesia, in the past people believed that the best dining atmosphere was consuming their own home-cooked food with their family. There was a culture that before going, they would eat first at home, because there was no culture of eating outside. They believed that this principle was to give respect for their wife or mother, keep good relationship among family members, and they could have healthy and secured food. However, that culture was decaying. Nowadays, people tend to like eating outside and consume ready-to-eat food. Moreover, there was many disasters (such as earthquake, flood, volcanic eruption, etc.) and indirectly affected maternal feeding behavior. In the emergency condition, they only consumed donated food (such as instant food), and parents also gave that kind of food for their toddlers. Parents become more accustomed to giving instant or fast food for their toddlers and eating outside with their toddlers recently (Irin, 2008).

Inappropriate maternal feeding behavior can impact negatively to children's health and developmental. Early experimental research revealed that child-feeding practices had clear effects on the child's emerging food preferences, intake patterns, and developing self-regulation of food intake (Birch et al., 2001). More recent evidence links parents' child-feeding practices to their children's weight status (Birch & Fisher, 1998, 2000; Johnson & Birch, 1994 as cited in Birch et al., 2001). Taken

together, these findings stress the potential importance of parents' child-feeding practices on their children's food acceptance patterns, and have led to hypotheses that child-feeding practices might be implicated as an environmental factor in childhood obesity (Birch & Fisher, 1998 as cited in Birch et al., 2001).

Child malnutrition, a major public health problem in developing countries, is usually attributed to growth faltering, which is primarily a consequence of repeated infectious episodes and inadequate nutrient intakes. The UNICEF conceptual framework suggests that care and feeding, in addition to food security, health care services, and a healthy environment, are critical for children's survival, growth, and development (Ha et al., 2002).

Child malnutrition is an important underlying factor in over half of the 10–11 million deaths in children under 5 years of age in developing countries. Chronic malnutrition in children is manifested by stunting and affects a large proportion of children in many developing countries. Poverty, low maternal and paternal education, and crowding are associated with chronic malnutrition in children (Best et al., 2008).

In Indonesia, the problem that related to inadequate food intake is malnutrition, which is under nutrition or over nutrition. Based on Badan Pusat Statistik (2010), nutritional status of children under five years including toddler are 17.9% (underweight); 35.6% (stunted); 13.35% (wasting); and the percentage of children with obesity increase from 12.2% (2007) become 14% (2010).

According to Badan Pusat Statistik (2010), inappropriate feeding does not only affect their nutritional status, but also it influences the energy and nutrient intake that is less than estimated need in children related to every group. The survey data obviously indicated that the average intake of many nutrients especially energy and micronutrient at all ages including toddler were much below the RDA (Recommended Dietary Allowance) for example 21.5% (the average intake of energy is low) and 16% (the average intake protein is low).

Pender's The Health Promotion Model

The Health Promotion Model, developed by Dr. Pender in 1982 and revised in 1987, 1996, 2002, and 2006, is based on many empirical studies (Pender, 1982; 1987; 1996; 2002; Pender et al., 2006). Due to the increasing prevalence of chronic diseases after the 1950s, disease prevention and health promotion are important issues in health care policy in the United States. For that reason, the purpose of the HPM is to predict health-promoting behavior. The revised HPM uses ten concepts to predict an outcome variable, health-promoting behavior by direct effect or indirectly effect (Pender et al., 2006).

Three categories comprise eleven concepts in Pender's revised HPM (Pender et al., 2006). The three categories include an individual's characteristics and experiences, behavior-specific cognitions and affect, and behavioral outcome. Two of the concepts; prior related behavior and personal factors, are included in the category of an individual's characteristics and experiences. The category of behavior-specific cognitions and affect consists of six concepts; perceived benefits of action, perceived barriers to action, perceived self-efficacy, activity-related affect, interpersonal influences, situational influences. The behavioral outcome category involves three concepts; immediate competing demands and preferences, commitment to a plan of action, and health-promoting behavior (Pender et al., 2006).

According to Pender et al. (2006), each person has unique personal characteristic and experiences that affect subsequent actions. The importance of their effect depends on the target behavior being considered. Individual characteristics or aspects of past experience selected provide flexibility in the HPM to capture variables that may be highly relevant to a particular health behavior but not to all health behaviors or in a particular target population but not in all populations. Individual characteristics and experiences consist of prior related behavior and personal factors. Prior related behavior is proposed as having both direct and indirect effects on the likelihood of engaging in health-promoting behavior. Personal factors are categorized as biologic, psychological, and sociocultural that shaped by nature. Personal factors should be limited to those that are theoretically relevant to explain or predict a given target behavior. Although personal factors may influence cognitions, affect, and

health behavior, some personal factors cannot be changed; thus, nursing intervention cannot modify them.

Pender et al. (2006) suggested that individuals engage in health-promoting behavior through a cognitive process that is related to the individual's intention to accomplish the health-promoting behavior. Predicting of future health-promoting behavior begins with developing awareness of relevant past behavior, and then identifying behavior-specific cognitions and affect. These variables are considered to have major motivational significance because they are subject to modification. The individuals variables of perceived benefits of action, personal barriers of action, perceived self-efficacy, activity-related affects, situational influences, and interpersonal influences can modified to increase health-promoting behavior.

Perceived benefits of action are defined as beliefs in benefits or positive outcome expectation that have been shown to be an important condition for participation in a specific health behavior. Perceived barriers to action affect health-promoting behavior directly as blocks to action, and indirectly through decreasing commitment to a plan of action. Barriers may be imagined or real and consist of perceptions concerning unavailability, inconvenience, expense, or difficulty of a given health behavior. Perceived self-efficacy is defined as the judgment of personal capability to organize and carry out a particular course of action. Activity-related affect is the subjective feelings prior to, during, and following an activity. Interpersonal influences include norm (expectations of significant others), social support (instrumental and emotional encouragement), and modeling (vicarious learning through observing others engaged in a particular behavior). The primary sources of interpersonal influences are family, peers, and health providers. Situational influences are the personal perceptions and cognitions of situation or context can facilitate or impede behavior. Behavior-specific cognitions and affect are influenced by immediate competing demands and preferences that can lead to a commitment to aplan action and to health-promoting behavior, which is the desired outcome of the HPM. An important theoretical assertion of Pender's model is that behavior-specific cognitions and affect can increase or decrease commitment to and engagement in health-promoting behavior (Pender et al., 2006).

This study guided by Pender's HPM. According to Pender et al. (2006) stated "Health promotion and primary prevention have been shown to have substantial benefits in improving quality of life and longevity". Health promotion and primary prevention are based on behavioral and sociopolitical models of health care that recognize effects of multiple systems on health outcomes. The goal of improving health behaviors within a population is best served by emphasizing health promotion and primary prevention through the life span (Kaplan et al., 2003). Health behavior may be motivated by an individual's desire to protect health by avoiding illness or having a desire to increase one's level of health in either the presence or absence of illness (Pender et al., 2006).

The HPM integrates nursing and behavioral science perspectives into factors that influence health behaviors. The HPM depicts the multidimensional nature of people interacting with their interpersonal and physical environments as they pursue health. The HPM does so by integrating a number of constructs from a social cognitive theory (self-direction, self-regulation and perceptions of self-efficacy), and expectancy-value theory (outcome has a positive personal value) within a nursing perspective of holistic functioning (Pender et al., 2006). The initial HPM was used as a framework for studies that focused on testing its predictive capabilities for an overall health promoting lifestyle.

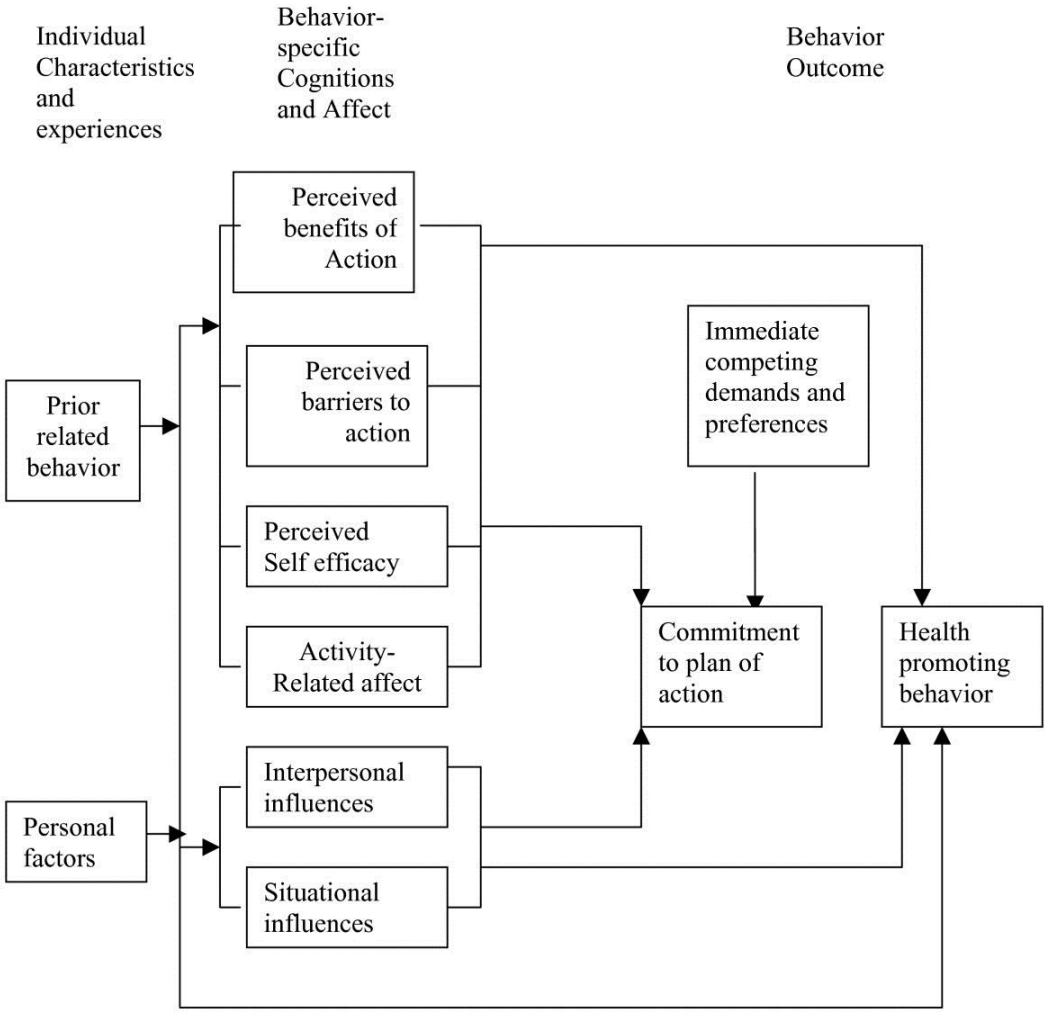

Figure 1 Pender's Health Promotion Model

Factors related to maternal feeding behaviors

In order to decrease the number of inappropriate maternal feeding behaviors for toddlers, nurse should know the factors that related to maternal feeding behaviors. In this study, the predicting factors were derived from Pender's HPM as a guide for selecting predicting factors of maternal feeding behaviors for toddlers, and also from the empirical literature that related to maternal feeding behaviors.

According to Pender et al. (2006), there are three categories of HPM, which are individual characteristics and experiences, behavior-specific cognitions and affect, and behavioral outcome. In detail, from those three categories consist of ten concepts that can influence health-promoting behaviors (Pender et al., 2006). In consideration

of appropriately apply to maternal feeding behaviors, those ten concepts were compared and contrasted to previous studies on maternal feeding behaviors.

In literature review related maternal feeding behaviors, there were found previous studies that studied about this topic. It was found that maternal feeding behaviors associated with maternal age (Hope, 2012; Pender et al, 2006); maternal level of education (Anderson et al., 2008; Best et al., 2007; Brown & Ogden, 2004; Guldan et al., 1993; Ribeira, Brown, & Akuamoa-Boateng, 2009; Sriram et al., 2013; WHO, 1998); perceived benefits of maternal feeding behaviors (Alli, 2012; Berlin et al., 2009; Pender et al., 2006; Satter, 1995; Sitthideth, 2014); perceived barriers to maternal feeding behaviors (Best et al., 2008; Darmon, Briend, & Drewnowski, 2004; Pender et al., 2006; Saied et al., 2013; Spruijt-Metz et al., 2006); perceived maternal feeding behaviors self-efficacy (Eksioglu & Ceber, 2011; Kolopaking & Bardosono, 2011; Leahy-Warren, et al., 2013; Pender et al., 2006); and social support (Khoury et al., 2005; Matich & Sims, 1992; Pender et al., 2006; Shealy, Benton-Davis, & Grummer-Strawn, 2005). And another factor that had relationship with parental feeding behavior was the total number of children (Newberger, 1977). However, it was only that one old literature reported the relationship between the number of children and parental feeding behavior. Therefore, in this study will not include the total number of children as the predicting factors of maternal feeding behavior.

Therefore, even though in Pender's HPM has ten concepts that can influence the health-promoting behaviors, however in the maternal feeding behaviors only found six possible predictors of maternal feeding behaviors that supported by previous studies related to maternal feeding behaviors. Therefore, this study selected the predictors from Pender's HPM which supported by previous studies that specific to maternal feeding behaviors. Two of the predictors, maternal age and maternal level of education, were taken from the individual characteristics and experiences in Pender's HPM. The other four, perceived benefits of maternal feeding behaviors, perceived barriers to maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and social support, belong to the behavior-specific cognitions and affect.

Maternal age

Age is the chronological number of years living since birth. Maternal age was defined as the chronological number of years living since birth of Indonesian mothers in Java who had toddlers. According to Pender et al. (2006), age is one of the biological personal factors in individual characteristics and experiences of Pender's HPM. Individual characteristics and experiences can influence behavioral outcome. Each person has unique personal characteristics and experiences that affect subsequent actions. The importance of their effect depends on the target behavior being considered.

According to Pender et al. (2006), the relevant factors predictive of a given behavior are shaped by nature of the target behavior being considered. Although personal factors may influence cognitions, affect, and health behavior, some personal factors cannot be changed; thus, nursing interventions cannot modify them.

In this study, one of the personal factors that might influence the maternal feeding behaviors was maternal age. The statement that mentioned maternal age had relationship with maternal feeding behaviors was supported by previous study that found that age was one of the personal factors that could influence the behavior (Hope, 2012). It was found that maternal age could influence how mothers providing the maternal feeding behaviors (Pender et al., 2006). It was also found that older mothers had better parenting than the younger mothers, because the older mothers tend to have greater experiences in parenting, more mature, more patient, and more confident in parenting (Hope, 2012). It is clear that maternal feeding behavior is one of the parenting activities (Steelman & Westman, 2010) that later influence children's eating behavior (Ventura & Birch, 2008).

Maternal level of education

Maternal level of education was defined as the number of years Indonesian mothers in Java Island who had toddlers studied in the formal education starting from the first grade in the elementary school. According to Pender et al. (2006), level of education is one of the sociocultural personal factors that are included in individual characteristics and experiences in Pender's HPM.

Level of education can influence the behavioral outcome. It is supported by studies that were found that maternal level of education associated with maternal feeding behaviors (Anderson et al., 2008; Best et al., 2007; Brown & Ogden, 2004; Guldan et al., 1993; Ribeira et al., 2009; Sriram et al., 2013; WHO, 1998). Maternal level of education has a positive impact on maternal feeding behaviors (Sriram et al., 2013), and improve child health and growth (Anderson et al., 2008; Best et al., 2007; Brown & Ogden, 2004; Guldan et al., 1993; Ribeira et al., 2009). The higher level of education, they tend to have more ability to process information about maternal feeding behaviors; better able to use health care facilities; keep the environment cleaner; the ability to acquire skills of feeding; and the ability to model behavior including maternal feeding behaviors (WHO, 1998).

Perceived benefits of maternal feeding behaviors

Perceived benefits of action are defined as beliefs in benefits or positive outcome expectation have been shown to be an important condition for participation in a specific health behavior (Pender et al., 2006). Perceived benefits of maternal feeding behaviors refer to the positive outcomes of appropriate maternal feeding behaviors recognized by Indonesian mothers in Java Island who had toddlers. Benefits for mothers include the happiness of them when their toddlers eat well with age-appropriate and healthy food and have good eating behaviors, and the strong relationships between them and their toddlers. The benefits that occurred in toddlers include developmental support, diseases protection, appropriate weight and height maintenance, positive eating behaviors maintenance, prevention from malnutrition for their toddlers (Alli, 2012; Berlin et al., 2009; Satter, 1995; Sitthideth, 2014; Walingo & Mutuli, 2014).

Perceived benefits of maternal feeding behaviors is one of the perceived benefits of action in Pender's HPM. According to Pender et al. (2006), perceived benefits of action is one concept of behavior-specific cognitions and affect in Pender's HPM that can directly influence the health-promoting behavior. From the literature review, there are several definitions of perceived benefits of action. According to Pender (1996), perceived benefits to action are personal perceptions and cognition of performance of the behavior. Perceived benefits of person or outcome expectations in

activities will benefit that person in changing his or her characters. Individuals tend to invest time and resources in activities with high like hood of increasing their experience of positive outcomes.

According to Pender et al. (2006), perceived benefits of action are defined as beliefs in benefits or positive outcome expectation have been shown to be an important condition for participation in a specific health behavior. Perceived benefits of action are also defined as an individual's expectations to engage in a particular behavior hinging on the anticipated benefits that it will occur.

One's plan to engage in a particular behavior often hinges on the anticipated benefits or outcomes that will occur. Anticipated benefits of action are mental representations of the positive or reinforcing consequences of a behavior. According to the expectancy-value theory, the motivational importance of anticipated benefits is based on personal or vicarious experience of outcomes from prior direct experience with the behaviors or observational learning from others engaging in the behaviors. Beliefs in benefits or positive outcome expectations have generally been shown to be a necessary although not sufficient condition for engagement in a specific health behavior. Individuals tent to invest time and resources in activities with a high likelihood of increasing their experience or positive outcomes. In the HPM, perceived benefits are proposed, as directly extent of commitment to a plan of action to engage in the behaviors from which the anticipated benefits with results (Pender et al., 2006).

Individuals have to perceive health benefits of the behaviors when they are making a decision about doing activities to sustain their health condition. The benefits will lead the individuals to conduct health-promoting behavior. The individuals will carefully follow the suggestion with the belief that the actions can prevent or reduce the illness that is threatening to their health. Moreover, individuals will act or approach objects that are satisfying or are likely to be beneficial, or "perceived benefits". Hence, if individuals perceive that health-promoting behavior is beneficial, they will conduct good health behaviors and continue their usual activities. Additionally, Pender et al. (2006) points out that an individual's action plan depends on the previously gained benefits or likely-to-gained benefits. The previous benefits represents positive attitude towards the behaviors and will both directly and indirectly

motivate the performance of the behaviors (Pender et al., 2006). Therefore, if an individual has perceived benefits of the action and experienced positive outcomes of the action, there will be a motivation to perform the action.

According to Pender et al. (2006), benefits of performance of the behavior may be intrinsic or extrinsic. Intrinsic benefits are those benefits that are perceived internally such as the individual experiencing increased alertness. And extrinsic benefits are those that are external to the individual such as monetary reward. Initially, extrinsic benefits of health behaviors may be of high motivational continuation of health behavior. It was found that benefits from performance of the promoting behaviors for body weight control may be intrinsic or extrinsic. Middle adolescents intrinsic benefits of promoting behavior for body weight control are a good figure, good health, and a decrease in the risk of obesity, cardiovascular disease, diabetes mellitus, and hypertension. The extrinsic benefit of promoting behavior for body weight control is receiving acceptance from peers (Pender et al., 2006).

In the HPM, perceived benefits are proposed to directly motivate behavior. Anticipated benefits of action are mental representations of the positive or reinforcing consequences of a behavior. According to the expectancy-value theory, the motivational importance of anticipated benefits is based on personal outcomes from prior direct experience with the behavior or vicarious experience through observing others engaging in the behavior. Individuals tend to invest time and resources in activities that have a high likelihood of increasing their experience of positive outcomes. Benefits from performance of the behavior may be intrinsic or extrinsic. Examples of intrinsic benefits include monetary rewards or social interactions possible as a result of engaging in the behavior. Initially, extrinsic benefits of health behaviors may be highly significant, whereas intrinsic benefits may be more powerful in motivating continuation of health behaviors. These perceived benefits of action effect a person including physically and psychologically and socially (Cecil, Pinkerton, & Bogart, 1999; Sechrist, Walker, & Pender, 1987). In the same line, a study of Hsiu-Fen Lin (2007) showed that extrinsic focuses on goal-driven reasons, (e.g. rewards or benefits earned when performing an activity), while intrinsic indicates the pleasure and inherent satisfaction derived from a specific activity. Together,

extrinsic and intrinsic influence individual intentions regarding an activity as well as their actual behaviors.

Mothers are more likely to perform appropriate maternal feeding behaviors if the benefits or outcomes are considered high. It is supported by previous study that was found that perceived benefits could influence the feeding behaviors (Walingo & Mutuli, 2014). Mothers more likely provide appropriate maternal feeding behaviors if they perceived that the benefits of maternal feeding behaviors are considered high. It was found that if mothers perceived the benefits of maternal feeding behaviors (such as increase toddlers' immune, diseases protection, etc.), it could influence how mothers performed maternal feeding behaviors (Walingo & Mutuli, 2014). It was also found that perception of mothers related to the benefits of feeding could influence them in making decisions related to maternal feeding behaviors (Wickham, 2011).

Perceived barriers to maternal feeding behaviors

Perceived barriers to maternal feeding behaviors is one of the perceived barriers to action in Pender's HPM. Perceived barriers to action was defined as the beliefs of the patients about blocks to perform health-promoting behavior such as the difficulty, inconvenience, expense, or lack of time (Pender et al., 2006). Perceived barriers to maternal feeding behaviors refers to the obstacles of appropriate maternal feeding behaviors identified by Indonesian mothers in Java Island who had toddlers which included difficulty, inconvenience, expense, and lack of time. According to Pender's HPM, perceived barriers to action is one concept of behavior-specific cognitions and affect (Pender et al., 2006). Perceived barriers to action are a cognitive perceptual factor influencing intention to engage in health-promoting behavior (Pender et al., 2006). Barriers may be imagined or real and consist of perceptions about oneself or situational and environmental factors such as the unavailability, inconvenience, expense, difficulty, or time-consuming nature of a particular action. Barriers are often viewed as the blocks, hurdles, and personal costs of undertaking a given behavior. When readiness to act is low and barriers are high, action is unlikely to occur. When readiness to act is high and barriers are low, the probability of action is much greater. Perceived barriers to action as depicted in the revised HPM affect

health-promoting behavior directly by serving as blocks to action (Pender et al., 2006).

Perceived barriers to health-promoting behavior can impede individuals from conducting the behaviors and can be a motivation for avoidance of the actions. When an individual is less ready for action but has more barriers, the actions will not happen. On the other hand, if there are less barriers but the individual is more ready, the action will happen (Pender et al., 2006). This statement is in accordance with Becker (1974), who has stated that individuals who perceive only barriers to health-promoting action will not conduct health-promoting behavior. Champion (1984) also maintains that perceived barriers to the illness-preventive actions are significant variables that affect the illness-preventive behaviors since the behaviors will be less conducted once barriers are perceived as difficulties. Therefore, perceived barriers are significant variables that can predict uncooperative behaviors in receiving treatment or performing health promoting actions (Pender et al., 2006).

Perceived barriers to maternal feeding behaviors include difficulty, inconvenience, expense, and lack of time can influence the maternal feeding behaviors. It was supported by previous study. It was found that lower income was one of the barriers in providing healthy food because unhealthy food likely more cost-effective for them (Best et al., 2008; Darmon et al., 2004; Spruijt-Metz et al., 2006). It was found that a high number of fats and sweets were related to lower costs, which tends to support the statement that unhealthy eating likely more cost-effective for lower income families (Darmon et al., 2004).

Another barrier to maternal feeding behaviors is about the time mothers need to spend outside the home. Mothers perceived that the longer they spend their time in working outside the home, the more difficult for them to provide an appropriate feeding behavior for their children, because they don’t have enough time to take care their children, and their children tend to stay with family members or neighbor (Saied et al., 2013).

Perceived maternal feeding behaviors self-efficacy

Perceived maternal feeding behaviors self-efficacy was the capability related to maternal feeding behaviors identified by Indonesian mothers in Java Island who had toddlers. Perceived maternal feeding behaviors self-efficacy is one of perceived self-efficacy in Pender's HPM. Perceived self-efficacy is an important component in this model. According to Pender et al. (2006), perceived self-efficacy is one concept of behavior-specific cognitions and affect in Pender's HPM that can influence behavioral outcome directly or indirectly. Pender et al. (2006) defined perceived self-efficacy as the judgment of personal capability to organize and carry out a particular course of action. Pender stresses the fact that self-efficacy is not concerned with the skills that one has, but rather with the personal decision of what one can do with whatever skills one possesses in terms of health behaviors. Perception of skill and competence in a particular domain motivate individuals to engage in those behaviors in which they excel. Feeling officious and skilled in one's performance is likely to encourage in the target behavior more frequently than is feeling inept and unskilled (Pender et al., 2006). Self-efficacy influences perceived barriers to action, with higher efficacy resulting in lowered perception of barriers. Self-efficacy motivates health-promoting behavior directly by efficacy expectations and indirectly by affecting perceived barriers (Pender et al., 2006).

Maternal feeding behaviors self-efficacy has relationship with maternal feeding behaviors. It was supported by previous study. It was found that maternal self-efficacy has relationship with maternal feeding behaviors (Eksioglu & Ceber, 2011; Kolopaking & Bardosono, 2011; Leahy-Warren, et al., 2013). Maternal self-efficacy has association with the mother's capacity to provide an adaptive, stimulating, and nurturing child-rearing environment (Kolopaking & Bardosono, 2011). It was found in Indonesia that mothers who perceived high self-efficacy can access and provide food for their families, and they were more likely to feed their children appropriately (Eksioglu & Ceber, 2011; Leahy-Warren et al, 2013).

Social support

Social support was the assistance that Indonesian mothers in Java Island who had toddlers received from family, friends, or significance others. In Pender's HPM,

social support is one of the concepts that include in the category of interpersonal influences. According to Pender et al. (2006), interpersonal influences are one constructs of behavior-specific cognitions and affect in Pender's HPM. Interpersonal influences are perceptions concerning the behaviors, beliefs or attitudes of others. It includes norms, social support, and modeling. This factor includes expectations of parent, support, and modeling influence to health-promoting behavior. Parent is primary source of interpersonal influence on health-promoting behavior. Pender considers the primary sources of interpersonal behaviors to be family (parents or siblings), peers, and health providers. Interpersonal influences include norms, social support, and modeling. Norm was defined as expectations of others regarding engagement in health-promoting behavior. Social support was defined as instrumental and emotional encouragement offered by others that act as a sustaining source for health-promoting behavior. Modeling was defined as vicarious learning through observing others engaged in health promoting behavior (Pender et al., 2006).

Three interpersonal processes affect individuals' predisposition to engage in health promoting behavior. An important theoretical assertion of Pender's model is that families, peers, and health providers are important sources of interpersonal influences that can increase or decrease commitment to and engagement in health-promoting behavior. Based on the literature review of published study related to feeding behavior, the interpersonal influences for feeding behavior is more about social support (Pender et al., 2006).

Social support is associated with how networking helps people cope with stressful events. Besides it can enhance psychological well-being. Social support is considered as a multidimensional construct. Social support is defined as support accessible to an individual through social ties to other individuals, groups, and the large community (Lin, Simeone, Ensel, and Kuo, 1979 as cited in House and James, 1981).

Four types of social support is distinguished (House, 1981). Emotional support is associated with sharing life experiences. It involves the provision of empathy, love, trust and caring. Instrumental support involves the provision of tangible aid and services that directly assist a person in need. It is provided by close friends, colleagues

and neighbors. Informational support involves the provision of advice, suggestions, and information that a person can use to address problems. Appraisal support involves the provision of information that is useful for self-evaluation purposes: constructive feedback, affirmation and social comparison.

Social support has relationship with maternal feeding behaviors. It was supported by previous studies. It was found that maternal social support that mother received from family members, friends, and also health care providers, associates with better maternal feeding behaviors. Mothers who perceived that they have high maternal social support, it is associated with better maternal feeding behaviors because they tend to be successful in feeding decision. In order to have better feeding behavior, mothers get information and support from their family members, friends, and also health care providers related to providing an appropriate maternal feeding behaviors (Khoury et al., 2005; Matich & Sims, 1992; Shealy et al., 2005).

Social support is a multidimensional concept, thus there are many instruments developed to measure it. In different studies of social support, different instruments have been used. However, the researcher could not find the instrument to measure the social support especially related to maternal feeding behaviors but social support in general.

Norbeck Social Support Questionnaire (NSSQ) was developed by Norbeck, Lindsey, & Carrieri (1981) to measure the multidimensional concept of social support. The NSSQ is a short, self-administered questionnaire that consisted of three major components; functional, network, and loss (Lindsey, 1992). The Social Support Questionnaire (SSQ) developed by Sarason et al. (1992) to measure the perceived number of social support and satisfaction with the social support available. The Perceived Social Support from Friends (PSS-Fr) and from Family (PSS-Fa) to measure the satisfaction of the support from both friends and family (Procido & Heller, 1983 cited in Lindsey, 1992). The Inventory of Social Supportive Behaviors (ISSB) (Barrera, Sandler, & Ramsay, 1981 cited in Lindsey, 1992) was developed to measure the frequency with which the participants were the recipients of supportive action. And Multidimensional Scale of Perceived Social Support (MSPSS) by Zimet

et al. (1988) was to measure the social support that individual received from family, friends, and significant others.

In order to appropriately use to measure the social support in this study, the researcher tried to develop the social support instrument based on the concept of this study. However, the instrument was consisted of many items. Therefore, this study was used the measurement of social support in general that appropriate with the concept of social support in this study.

After compared and contrasted, MSPSS by Zimet et al. (1988) was chosen as the most appropriate measurement for social support in this study. MSPSS measured social support from three sources (family, friends, and significant other), which match with the concept of social support in this study. And also MSPSS has been tested on people from different age groups and cultural background and found to be a reliable and valid instrument including in South Asian (Wongpakaran et al., 2011). MSPSS by Zimet et al. (1988) was already used in several South Asian countries, such as it was used to measure social support of Nepalese and Pakistani who living in Hong Kong (Tonsing et al., 2012). Therefore, this study used the MSPSS by Zimet et al. (1988). Therefore, this study was used MSPSS to measure the social support.

Health system of Indonesia related to maternal feeding behaviors for toddlers

In Indonesia, the health care service has main purpose to promote the health of the public by providing four types of services; 1) promotion, 2) preventive, 3) curative, and 4) rehabilitative. In order to promote and prevent the health's problems, the Ministry of Health Indonesia established a community/public health center in every sub-district namely *Puskesmas (Pusat Kesehatan Masyarakat)*. As the extension of *Puskesmas* to monitor the health of mothers and children under five years old, *Posyandu (Pusat Pelayanan Terpadu)*, Integrated Service Post, was established in every village. *Posyandu* is a monthly clinic for mothers and children. Especially for children, *Posyandu* provides monthly activities; health assessment, monitoring nutritional status, monitoring height and weight, nutritional supplements,

diarrhea prevention, vaccinations, and health promotion related to children's health, nutrition and development (Kementrian Kesehatan RI, 2012).

In every *Posyandu*, there are responsible health care providers from the *Puskesmas* that consist of doctor, nurses, and midwifery. In purpose to help the health care providers in the community setting, there are volunteer health care providers from every village namely *Kader*. Every health care provider in *Posyandu* has responsibilities to do the above programs including nurses.

The responsibilities of nurses in the *Posyandu* related to the children's health and development such as health assessment, monitoring growth and development, monitoring nutritional status, giving vitamins, diarrhea prevention, training the *Kader* related to improving children's health and development, conducting health education related to improving children's health and development, conducting research related to children's health in the community area, etc. (Kementrian Kesehatan RI, 2012).

In summary, the independent variables in this study will be derived from Pender's HPM and also from the empirical literature that related to maternal feeding behaviors as the dependent variable. From three categories of Pender's HPM comprise ten concepts that can influence the health-promoting behavior. Those ten concepts are, then, compared and contrasted with previous studies related to maternal feeding behaviors and there were six concepts of Pender's HPM that associated with maternal feeding behaviors. Those six concept came from two construct of Pender's HPM; individual characteristics and experiences (maternal age and maternal level of education); and behavior-specific cognitions and affect (perceived benefits of maternal feeding behaviors, perceived barriers to maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and social support).

Therefore, maternal age, maternal level of education, perceived benefits of maternal feeding behaviors, perceived barriers to maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and social support can predict maternal feeding behaviors as illustrated in Figure 2.

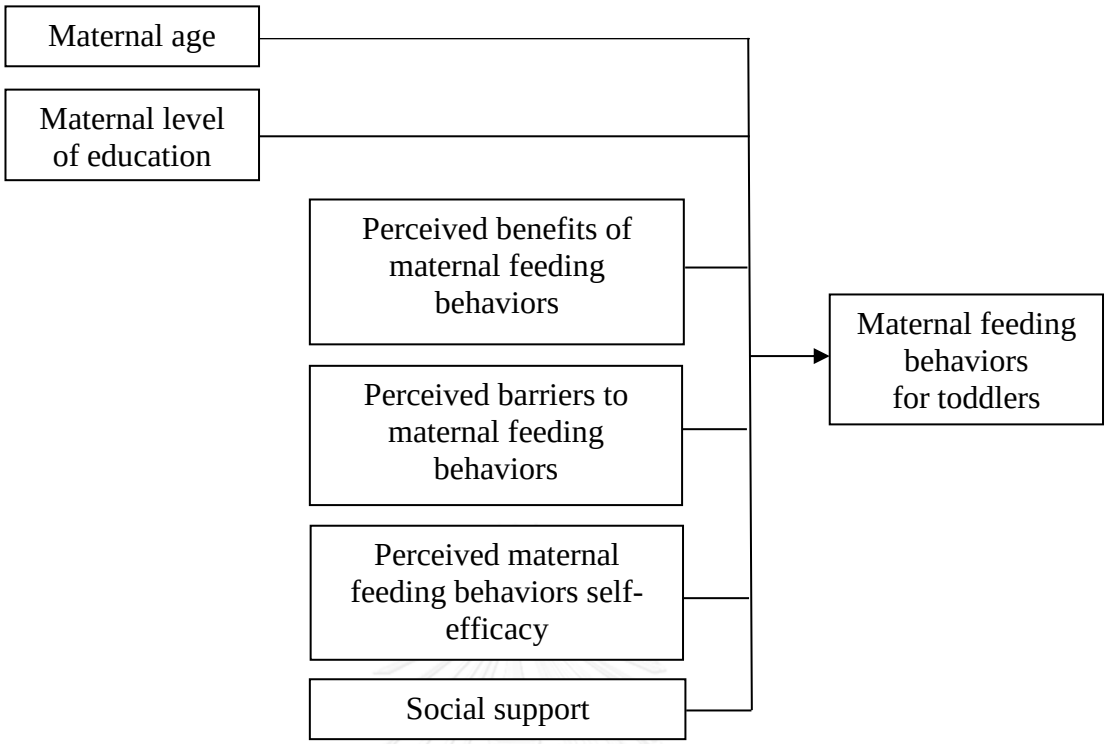

Figure 2 The conceptual framework

CHAPTER III
METHODOLOGY

The design of study, population and sample, instrumentation**,** protection of human subjects, data collection procedure, and data analysis methods were described in this chapter.

Research design

This **s**tudy could be classified into a predictive correlational research design. The purpose of this study was to identify the predicting factors of maternal feeding behaviors for toddlers in Java Island, Indonesia.

Population and sample

Population of the study: the population for this study was mothers who had toddlers (1-3 years old) and lived in Java Island, Indonesia.

Sample size calculation

The sample size was calculated by Thorndike's formula (1978), in which the sample size was estimated based on the total number of independent variable.

Used the formula $N \geq (10k) + 50$

Where, N = sample size

k = independent variable

This study has 6 independent variables (k);

$N \geq (10k) + 50$

$N \geq (10x6) + 50$

$N \geq 110$

The sample size to describe the selected factors that could predict the maternal feeding behaviors for toddlers in Java Island, Indonesia was at least 110 mothers. In keeping stringent sample estimates, the sample size in this study was set to be 110.

Sampling technique and sample selection

A multi-stage random sampling was used in this study. The following steps were followed to select the participants and to maximize the normal distribution of the samples (see also Figure 3).

Stage 1. Java Island, Indonesia was divided into 3 regions. One province was randomly selected from each region. In result, there were three randomly selected provinces.

Stage 2. From those three provinces, one district was randomly selected from each province.

Stage 3. From those three districts, one sub-district was randomly selected from each district.

Stage 4. From those three sub-districts, the researcher obtained the total number of mothers who have toddlers from *Puskesmas* (Public Health Center), and then the researcher calculated the proportion to do random selection to get the participants. Participants were selected based on inclusion criteria;

1. Indonesian nationality.
2. Mother who having toddler (1-3 years old), the main caregiver, and performing maternal feeding behaviors for their toddler.
3. Can speak, write, and read in *Bahasa Indonesia.*
4. Willing to participate in this study.

Participants who met the inclusion criteria were recruited by the researcher using simple random sampling. This sampling frame ensured all regions of Java Island covered to represent the maternal feeding behaviors for toddlers in Java Island, Indonesia.

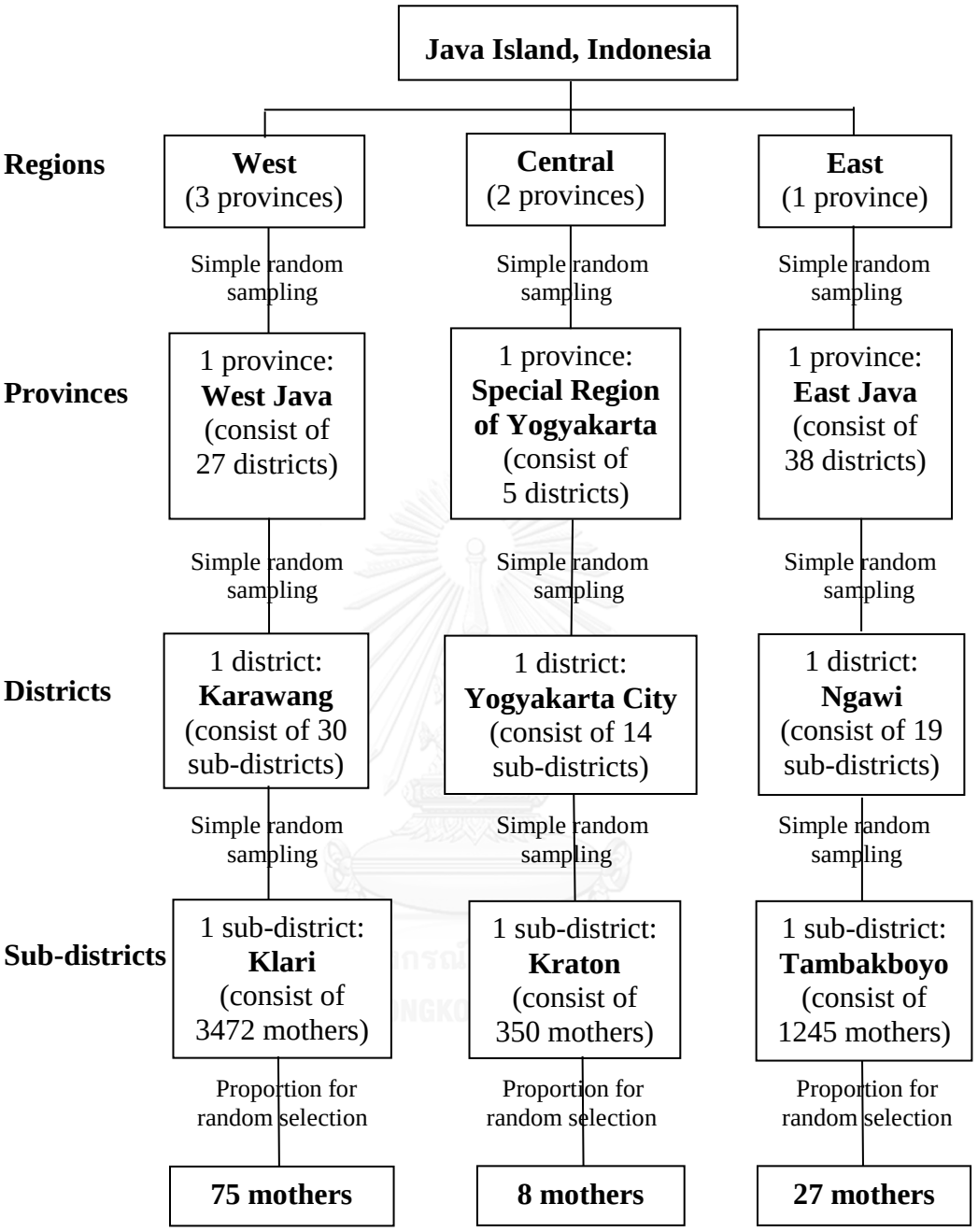

Figure 3 The sampling technique and selection with multi-stage random sampling

Demographic characteristics of the study sample

A total of 110 mothers who had toddlers and lived in Java Island, Indonesia were participated in this study. The demographic characteristics of the participants were presented in summary.

Table 1 Number and percentage of participants classified by their demographic characteristics (n=110)

Demographic characteristics	n	%
Maternal age (years old)		
21-25	8	7.3
26-30	36	32.7
31-35	39	35.5
36-40	21	19
41-46	6	5.5
Maternal level of education		
Elementary School	10	9.1
Junior High School	20	18.2
Senior High School	65	59.1
Diploma	5	4.5
Bachelor	8	7.3
Master	2	1.8
Maternal marital status		
Married	109	99.1
Divorced	1	0.9
Maternal ethnicity		
Javanese	103	93.6
Others	7	6.4
Maternal religion		
Islam	101	91.8
Christianity Protestantism	7	6.4
Christianity Roman Catholicism	2	1.8
Maternal occupation		
Private Company	16	14.6
Civil	1	0.9
Teacher	2	1.8
Merchant	3	2.7

Table 1 Number and percentage of participants clasified by their demographic characteristics (n=110) (con't)

Demographic characteristics	n	%
Maternal occupation (con't)		
Housewife	86	78.2
Farmer	2	1.8
Mothers' time spending outside the house (hours/day)		
< 8	100	90.9
8	6	5.5
> 8	4	3.6
Person who take care the toddlers when mothers spent time outside the house		
Mother, herself	45	40.9
Father	14	12.7
Grandmother	35	31.8
Grandfather	1	0.9
Other Family	9	8.2
Neighboor	2	1.8
Hired caregiver	4	3.6
Household income in Rupiah (Rp.)		
Rp.20.000 – Rp. 50.000	54	49.1
Rp.60.000 – Rp. 100.000	41	37.3
Rp.110.000 – Rp. 150.000	8	7.3
Rp.160.000 – Rp. 200.000	3	2.7
Rp.260.000 – Rp. 300.000	3	2.7
> Rp.350.000	1	0.9
Informal education related to maternal feeding behaviors		
No	52	47.3
Yes	58	52.7
Total number of children		
1	36	32.7
2	58	52.7

Table 1 Number and percentage of participants clasified by their demographic characteristics (n=110) (con't)

Demographic characteristics	N	%
Total number of children (con't)		
>2	16	14.6
Children's number of toddlers		
1st	42	38.2
2nd and more	68	61.8
Age of toddlers (months)		
12-24	65	59.1
25-36	45	40.9
Sex of toddlers		
Male	55	50
Female	55	50
Total number of person who stay at the same house		
1-4	74	67.2
>4	36	32.8

Table 1 showed that mostly (68.2%) participants were 26-35 years old, 86.4% of participants had formal education at least graduated from senior high school, and 52.7% of all participants already got informal education related to maternal feeding behavior, such as health promotion with the topic appropriate nutrition for toddlers. Almost all of the participants (99.1%) were married woman; 93.6% of them were Javanese ethnicity, and 91.8%of them were Muslim. Approximately 78.2% of the participants were housewife, and mostly participants (90.9%) spent time less than 8 hours per day outside the house, even the time-working in Indonesia usually 8 hours per day. Around a half of them (49.1%) earned Rp.20.000-Rp.50.000 as the household income per day. Many of them (67.2%) stayed together with 1-4 persons in the same house. 52.7% of the participants had 2 children, and 38.2% of them had their toddlers as the first child. The participants' toddlers' age ranged from 12 to 36 months old and

most of the toddlers (59.1%) were 12-24 months old. 50% of the participants' toddlers were male, and 50% others were female.

Instrumentation

The research instruments consisted of: 1) Demographic Characteristic Questionnaire, 2) Maternal Feeding Behaviors Questionnaire (MFBQ), 3) Perceived Benefits of Maternal Feeding Behaviors Questionnaire (BeFBQ), 4) Perceived Barriers to Maternal Feeding Behaviors Questionnaire (BaFBQ), 5) Perceived Maternal Feeding Behaviors Self-efficacy (FBSeQ), and 6) Multidimensional Scale of Perceived Social Support (MSPSS).

One instrument (MFBQ) was modified. One instrument (MSPSS) was translated from English into Bahasa Indonesia and used it. And the other instruments (Demographic Characteristic Questionnaire, BeFBQ, BaFBQ, and FBSeQ) were developed by the researcher. The detail of translation, modification, validity, and reliability are presented.

1. Demographic Characteristic Questionnaire

Demographic Characteristic Questionnaire was developed by the researcher. The purpose of the Demographic Characteristic Questionnaire was to collect information regarding demographic characteristics of the participants. This Demographic Characteristic Questionnaire was a self-report questionnaire that consisted of both close-ended question (5 items) and open-ended question (11 items). Those questions were; 1) age; 2) level of education; 3) marital status; 4) ethnicity; 5) religion; 6) occupation; 7) how many hours mother spend outside the home (hour/day); 8) the person who will take care the toddler when mother spend time outside the home; 9) number of children; 10) which number is their toddlers; 11) age of the toddlers; 12) gender of the toddlers; 13) total number of person who live in the same house; 14) household income; and 15) informal education that they got related to maternal feeding behavior.

2. MFBQ

MFBQ was modified from Parental Feeding Behaviors Questionnaire (PFBQ) by Lusmilasari et al. (2015) after obtaining the permission from the author in order to be appropriately focused on the mothers. The modification was only changed the term "parents" in PFBQ to be "mothers" in MFBQ, and then used it. MFBQ using the term "mothers" because in this study only focused on mothers. For the contents, items and scale of the questionnaire were the same.

PFBQ was used to measure the feeding behavior of Indonesian parents. The total items of PFBQ was 56 items, which consisted of 3 sub-scales: providing food that are balanced, healthy, and safety (19 items); enhancing good eating behavior (26 items); and promoting a pleasant eating environment (11 items). PFBQ measured frequency of behavior in a 5 rating scale format; (1=never), (2=rarely), (3=sometimes), (4=most of the time), and (5=always). The total scores ranged from 56 to 280. The MFBQ's total scores were classified into three levels by dividing the range of the data set with the width of the class intervals (Teaching and Learning Unit, University of Melbourne, 2010). The range of the data set was 56-280, and the width of the class interval was 3 (low, moderate, and good). As a result, the three levels of MFBQ; low (56-131), moderate (132-206), and good (207-280).

The psychometric properties of the PFBQ were tested in 548 participants. The content validity of the PFBQ was determined by a panel of six experts which include four experts in nursing field and two dietitians. The result of the Content Validity Index of PFBQ was I-CVI (.83-1.00) and S-CVI (.98). Construct validity of the PFBQ was established by confirmatory factor analysis and known group technique. It's Cronbach's coefficient was .94 (Lusmilasari et al., 2015).

3. BeFBQ

Perceived benefits of maternal feeding behaviors in this study were measured by "Perceived Benefits of Maternal Feeding Behaviors Questionnaire (BeFBQ)" that was developed by the researcher. Literature review related to the instrument to measure perceived benefits to maternal feeding behaviors was conducted before the researcher developed the BeFBQ. However, the researcher could not find the measurement to measure the perceived benefits of maternal feeding behaviors for

toddlers, even in children generally. It was found the instruments to measure the perceived benefits for adults namely Perceived Benefits of Healthy EatingFoods by Pawlak & Colby (2009), and Perceived Benefits of Heart Healthy Eating Questionnaire by Artinian (2001). After compared and contrasted the items of those instruments on the concept of maternal feeding behaviors for toddlers, the items were not appropriate with the concept of this study. Therefore, in this study the researcher developed BeFBQ based on the operational definitions of the perceived benefits of maternal feeding behaviors and the concept of maternal feeding behaviors that included three major activities.

The BeFBQ consisted of 9 items. The questionnaire measured the perceived benefits of maternal feeding behaviors for toddlers in a 5-choice Likert-scale format from strongly disagree to strongly agree. The scale format choices were (1=strongly disagree), (2=disagree), (3=neither disagree/agree), (4=agree), and (5=strongly agree). The total scores were summed up into the total scores. The total scores were ranged from 9 to 45. The high score indicated higher perceived benefits of maternal feeding behaviors for toddlers, and the low score indicated lower perceived benefits of maternal feeding behaviors for toddlers.

4. BaFBQ

Perceived barriers to maternal feeding behaviors in this study were measured by “Perceived Barriers to Maternal Feeding Behaviors Questionnaire (BaFBQ)” that was developed by the researcher. In the literature review, the researcher could not find the instrument that related to perceived barriers that specific on maternal feeding behaviors for toddlers or children in general. There were instruments measured the perceived barriers for adults namely Perceived Barriers to Healthy Eating Foods by Pawlak & Colby (2009), Perceived Benefits of Heart Healthy Eating Questionnaire by Artinian (2001), and also the instrument to measure the perceived barriers of healthy eating habits “Barriers and Eating Habits” by Kang (2012). However, those instruments not appropriately use to measure perceived barriers specifically on maternal feeding behaviors for toddlers. Thus, the researcher developed the BaFBQ to measure the perceived barriers to maternal feeding behaviors based on the operational definition of perceived barriers to maternal feeding behaviors that consisted of

difficulty, inconvenience, expense, and lack of time, and the concept of maternal feeding behaviors that consisted of three activities.

The BaFBQ consisted of 11 items. The questionnaire measured the perceived barriers to maternal feeding behaviors for toddlers in a 5-choice Likert-scale format from strongly disagree to strongly agree. The scale format choices were (1 = strongly disagree), (2 = disagree), (3 = neither disagree/agree), (4 = agree), and (5 = strongly agree). The total scores were summed up into the total scores. The total scores were ranged from 11 to 55. The high score indicated higher perceived barriers to maternal feeding behaviors for toddlers, and the low score indicated lower perceived barriers to maternal feeding behaviors for toddlers.

5. FBSeQ

Perceived maternal feeding behavior self-efficacy in this study measured by "Perceived Maternal Feeding Behaviors Self-efficacy Questionnaire (FBSeQ)" that was developed by the researcher based on the literature review. In order to develop the FBSeQ, the researcher did the literature review about the instrument that related to perceived maternal feeding behaviors self-efficacy for toddlers. However, the researcher could not find that instrument even for children in general. There were instruments measured the perceived self-efficacy for adults namely Self Efficacy for Eating and Purchasing Healthy Foods by Pawlak & Colby (2009), and Eating Habits Confidence Survey by Kang (2012). However, those instruments not appropriately use to measure perceived maternal feeding behaviors self-efficacy for toddlers. Thus, the researcher developed the FBSeQ to measure the perceived maternal feeding behaviors self-efficacy based on the operational definition of perceived maternal feeding behaviors self-efficacy and the concept of maternal feeding behaviors. Perceived maternal feeding behaviors self-efficacy was the capability that mothers belief to perform appropriate maternal feeding behaviors for their toddlers, and the concept of maternal feeding behaviors was consisted of three activities.

The FBSeQ consisted of 3 items. The questionnaire measured the maternal feeding behaviors self-efficacy for toddlers in a 5-choice Likert-scale format from no confident to very high confident. The scale format choices were (1 = no confident), (2 = a little confident), (3 = moderate confidence), (4 = high confident), and (5 = very

high confident). The total scores were summed up into the total scores. The total scores were ranged from 3 to 15. The high score indicated higher maternal feeding behaviors self-efficacy for toddlers, and the low score indicated lower maternal feeding behaviors self-efficacy for toddlers.

6. MSPSS

In this study, social support was assessed by using Multidimensional Scale of Perceived Social Support (MSPSS) by Zimet et al. (1988). It was a self-report questionnaire that consists of 12 items of three sub-scales; Family (items 3, 4, 8, and 11), Friend (items 6, 7, 9, and 12), and Significant Others (items 1, 2, 5, and 10). The MSPSS is a brief, easy to administer self-report questionnaire which all of the items rated on seven-point Likert-scale with scores ranging from "very strongly disagree" (1) to "very strongly agree" (7). The total items in this questionnaire were 12 items. The rating scores were summed up into the total scores. The total scores were ranged from 12 to 84. The high score was indicated higher social support, and the low score was indicated lower social support. The Content Validity Indices of MSPSS were I-CVI (1.00) and S-CVI (1.00). And the value of Cronbach's alpha was .84.

After permission was obtained from the author, the MSPSS was translated from English into Bahasa Indonesia by Back-Translation technique. Bilingual translators who were good at both English and Bahasa Indonesia performed the translation. The translation performed as the following:

Step 1: two translators separately translated the English version into Bahasa Indonesia.

Step 2: the researcher and two translators together discussed and compared the two Bahasa Indonesia versions in order to get the agreed Bahasa Indonesia version.

Step 3: two other translators separately translated from agreed Bahasa Indonesia version into English version.

Step 4: there were some differences found between two English versions and the original English version. The researcher and translators then compared both English versions in the original version and discussed the differences. The necessary changes in the Bahasa Indonesia versions are made by the discussion of all translators who regard the culturally equivalent meaning in achieved. And finally the final

Bahasa Indonesia version was produced. The back translated English versions compared in order to validate the accuracy of the translation process.

Psychometric Properties Testing

The psychometric testing phase was operated to test the validity and reliability of the instruments.

1. MFBQ

The psychometric properties of the PFBQ were tested in 548 participants. The results showed that PFBQ had acceptable content and construct validity. Therefore, in this study MFBQ did not test for the validity anymore and only its internal consistency was tested in this study. MFBQ was tested in 30 mothers who had similar characteristics with the sample of this study and then applied it in 110 samples. The result showed that the value of Cronbach's coefficient were .90, .93.

2. BeFBQ, BaFBQ, FBSeQ, and MSPSS

2.1 Content validity

The BeFBQ, BaFBQ, FBSeQ, and MSPSS were tested the content validity. The content validity concerns the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain (Nunally & Bernstein, 1994). The content validity of the BeFBQ, BaFBQ, FBSeQ, and MSPSS were determined by an expert panel consisting of five experts in pediatric nursing field. The five experts evaluated the content validity of the instruments by placing one of four-point scales that reflected relevance to the measure (1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, and 4 = highly relevant) in each item (Polit & Beck, 2008). Additionally, the experts were asked to clarify their reasons if they did not agree with any of the items. The summary of the results is presented in the Table 2.

Table 2 Content validity of BeFBQ, BaFBQ, FBSeQ, and MSPSS

Instrument	Number of items	I-CVI	S-CVI
BeFBQ	9	1.00	1.00
BaFBQ	11	.40-1.00	.85
FBSeQ	3	1.00	1.00
MSPSS	12	1.00	1.00

Table 2 showed that the content validity of the BeFBQ, FBSeQ, and MSPSS were I-CVI (1.00) and S-CVI (1.00). However, for BaFBQ were I-CVI (.40-1.00) and S-CVI (.85).

In the first version of BaFBQ consisted of 12 items that correlated with the total scores at a level of above .30. Only 11 items were agreed by experts because there was 2 items were similar and combined into 1 item. Thus, there was 11 items in the final version of the BaFBQ.

2.2 Reliability

The BeFBQ, BaFBQ, FBSeQ, and MSPSS were tested the reliability. The reliability of BeFBQ was tested in 30 mothers who had similar characteristics with the sample of this study and then applied it in 110 samples. The acceptable level of Cronbach's coefficient was greater than .70 (Burn & Grove, 2009). The summary of the results is presented in Table 3.

Table 3 Reliability of BeFBQ, BaFBQ, FBSeQ, and MSPSS

Instrument	Number of items	Reliability (n=30)	Reliability (n=110)
BeFBQ	9	.88	.92
BaFBQ	11	.87	.91
FBSeQ	3	.86	.80
MSPSS	12	.84	.81

Table 3 showed that the Cronbach's coefficients of the BeFBQ, BaFBQ, FBSeQ, and MSPSS were acceptable (>.70).

Instruments summary

The final version of the instruments used in this study are presented in Appendix G. MFBQ was modified from PFBQ by Lusmilasari et al. (2015) to measure the maternal feeding behaviors. In order to measure social support, MSPSS by Zimet et al. (1988) was translated from English into Bahasa Indonesia version by back-translated method and then used it. Four instruments were developed by researcher (Demographic Characteristic Questionnaire, BeFBQ, BaFBQ, and FBSeQ). All instruments demonstrated satisfactory validity and reliability.

Protection of human subject

This study was conducted in Java Island, Indonesia with the approval of the Institutional Review Board (IRB) that had international certification, which was the Ethical Clearance from Gadjah Mada University (Approval Letter No. Ref: KE/FK/1400/EC, dated 23 December 2014). After getting IRB, the researcher also got the permission from each randomly selected sub-district before the data collection. For Special Region of Yogyakarta, the researcher got the permission letter from Health Department Office of Special Region of Yogyakarta and also Yogyakarta Licensing Office. For Karawang and Ngawi, the researcher got the permission letter from each Sub-district Government Office of National and Political Unity.

The inform consent form for the participants explained the purposes of the study, benefits, risks, and the types of questionnaires. The participants informed also about their rights to refuse participation. If the participants do not want to answer the questionnaire, they can withdraw from the study at any time without penalty. Their name did not address in the data; a code number used to ensure confidentiality. There was no harm to the participants in this study. There was neither cost nor any payment to participate in this study. However, after completing the questionnaires, each participant received a gift in appreciation for their participation.

Data collection

Data were gathered from January to February 2015. The data collection of this study followed these procedures:

1. After the study was approved (Appendix A), the IRB was obtained from the Ethical Clearance of Gadjah Mada University (Approval Letter No. Ref: KE/FK/1400/EC, dated 23 December 2014) (Appendix B), and the permissions for collecting the data were also obtained from each randomly selected sub-district (Appendix C).

2. With IRB and permission letters, the researcher contacted the head of *Puskesmas* (Public Health Center) of three randomly selected sub-districts, self-introduction, informed about the objectives of the study, importance of the study, questionnaires, and data collection procedures, then asked for cooperation. The heads of *Puskesmas* gave the permission verbally and contacted the responsible health care providers.

3. Then the researcher met the responsible health care providers in *Puskesmas*, self-introduction, informed about the objectives of the study, importance of the study, questionnaires, and data collection procedures, then asked for cooperation. Responsible health care providers contacted *Kaders* (person who help health care providers), and asked for cooperation. Responsible health care providers and *Kaders* gave the data about mothers who had toddlers and also as the main caregiver for their toddlers. With responsible health care providers and *Kaders*, the researcher randomly selected the participants based on the inclusion criteria.

4. The researcher was accompanied by the responsible health care providers and *Kader* then contacted the randomly selected participants to take part in the study.

5. At the participants' house, the researcher introduced herself, explained the purpose of the study, the contributions of the participants made, and emphasized the confidentially or anonymity of the information. After agreement obtained, the participants were asked to sign a consent form.

6. After consent form was obtained, the researcher gave the questionnaires, asked participants to complete the questionnaires. Participants took 30-45 minutes to complete the questionnaires.

7. During data collection, participants could stop in completing the questionnaires for a while if there was some inconvenient condition (such as their children crying), and they could continue again after participant feel convenient. To avoid uncompleted answer, the researcher accompanied the participant during completing the questionnaires and gave some explanation if the participants need some clarification of the items in the questionnaires. To avoid participants feel bored, the researcher made a little conversation about their toddlers in the interchange questionnaires.

8. After completing the questionnaires, the researcher examined the questionnaires for completeness of the data. Participants asked to complete any missing items.

9. After finished, the researcher gave each participant a gift to appreciate their participation in this study.

Data analysis

Data were analyzed by descriptive and inferential statistics as follows:

1. The descriptive statistics was used to describe the basic features of the maternal feeding behaviors for toddlers and demographic characteristics of the participants.

2. The bivariate correlation analysis was used to examine the relationships between the predicting factors and maternal feeding behaviors.

3. The assumptions underlying were determined including normality of distribution, linearity of relationship, homoscedasticity, and multicollinearity.

Normality testing

In the current study, descriptive statistics including mean, standard deviation, skewness and kurtosis were used to test normality of variables. The skewness of predicting variables ranged from -1.556 to 1.177, and the kurtosis of variables ranged

from -.061 to 6.623 (see Table 9 in Appendix I), which reflect a normal distribution. Additionally, the P-P plot indicated that all the variables were approximate normally distributed (see Figure 4 in Appendix I).

Linearity testing

The linearity relationship between the independent variables and the dependent variable represents the degree of change in the independent variables that are associated with the dependent variable, and can be checked by the residual plot (Hair & collegues, 2006). In the current study, the scatter plot between the independent and dependent variables showed such a linear relationship (see Figure 4 in Appendix I).

Homoscedasticity testing

Homoscedasticity, the assumption of homoscedasticity explained that the dependent variable exhibits equal levels of variance across the range of predictor variables. The best way to examine homoscedasticity is graphs that depart from an equal dispersion and present shapes as cones (Hair & collegues, 2006). In the current study, the scatter plot of residuals showed the results from homoscedastic data (see Figure 4 in Appendix I). Almost of the data was in the normal range (±2 standard deviation).

Multicollinearity testing

The tolerance measures of multicollenearity among the independent variables (values ranging from 0 to 1) and the tolerance value that approaches zero indicate multicollenearity. It is worth nothing that the values of VIF that are greater than 10 indicate a cause of concern (Mertler & Vannatta, 2002). In the present study, the result of the multiple regression analysis indicated that the tolerance ranged from .741 to .966 and for the VIF ranged from 1.035 to 1.350. Thus, the results confirmed no violation for multicollinearity (see Table 14 in Appendix I).

4. Next, multiple regression analysis was used to examine the predictability among the predicting factors. Stepwise regression analysis was used in this study.

CHAPTER IV
RESULTS

This chapter presents the results of; 1) descriptive data of maternal feeding behaviors for toddlers in Java Island, Indonesia, 2) correlation between maternal age, maternal level of education, perceived benefits of maternal feeding behaviors, perceived barriers to maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, social support and maternal feeding behaviors, and 3) predicting factors of maternal feeding behaviors.

Descriptive data of maternal feeding behaviors for toddlers in Java Island, Indonesia

The detail regarding to the variables of this study was presented by the possible range, actual range, mean, and standard deviation (SD) as shown in Table 4.

Table 4 Descriptive of all variables (n = 110)

Variables	Possible range	Actual range	Mean	Standard deviation (SD)
Maternal Feeding Behaviors (MFB)	56-280	125-277	217.11	28.819
Perceived benefits of MFB	9-45	17-45	39.13	4.957
Perceived barriers to MFB	11-55	11-51	27.52	8.094
Perceived MFB self-efficacy	3-15	6-15	12.00	1.882
Social support	12-84	12-84	65.05	9.806

As shown in Table 4, the range of maternal feeding behaviors scores were between 125 and 277, with the mean score 217.11 (SD = 28.819). The range of perceived benefits of maternal feeding behaviors scores were between 17 and 45, with the mean score 39.13 (SD = 4.957). The range of perceived barriers to maternal

feeding behaviors scores were between 11 and 51, with the mean score 27.52 (SD = 8.094). The range of perceived maternal feeding behaviors self-efficacy scores were between 3 and 15, with the mean score 12.00 (SD = 1.882). The range of social support scores were between 12 and 84, with the mean score 65.05 (SD = 9.806).

Table 5 The frequency, percentage, mean, and standard deviation (SD) of maternal feeding behaviors (n = 110)

Maternal Feeding Behaviors	n	%
Low (56-131)	1	0.9
Moderate (132-206)	37	33.6
Good (206-280)	72	65.5

The majority of Indonesian mothers in this study (65.5%) performed maternal feeding behaviors at the good level, about 33.6% performed at the moderate level, and only one mother (0.9%) performed at the low level (Table 5).

Correlation between selected predicting factors and maternal feeding behaviors

Analyses of correlation coefficients were conducted to test the relationships between predictors and maternal feeding behaviors. The magnitude of the relationships was determined by the following criteria of the correlation coefficient (r); $r < .30$ = weak or low relationship, $.30 \geq r \leq .50$ = moderate relationship, and $r > 50$ = strong or high relationship (Burn & Grove, 2009). The results of the correlation coefficients of the variables are presented in Table 6.

Table 6 Correlation coefficients of the variables (n=110)

Variables	Correlation coefficients (r)	p-value
Maternal age	.065	.499
Maternal level of education	.141	.143
Perceived benefits of MFB	.542**	.000**
Perceived barriers to MFB	-.213	.025*
Perceived MFB self-efficacy	.490**	.000**
Social support	.196*	.041*

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

It showed in Table 6 that there were significant positive relationships between perceived benefits of maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, social support, and maternal feeding behaviors (r=.542, p<.01; r=.490, p<.01; r=.196, p<.05, respectively). And significant negative relationship between perceived barriers to maternal feeding behaviors and maternal feeding behaviors (r=-.213, p<.05). There were no relationships between maternal age, maternal level of education and maternal feeding behaviors.

As shown in the Table 6, there was only one independent variable that had strong or high relationship with maternal feeding behaviors, which was perceived benefits of maternal feeding behaviors ($r = .542$, $p \leq .01$). The perceived maternal feeding behaviors self-efficacy had moderate relationship with maternal feeding behaviors ($r = .490$, $p \leq .01$). Other independent variables (perceived barriers to maternal feeding behaviors and social support) had weak or low relationships with maternal feeding behaviors ($r = -.213$, $p<.05$ and $r = .196$, $p<.05$, respectively).

Predicting factors of maternal feeding behaviors

To describe the predicting factors of maternal feeding behaviors for toddlers in Java Island, the stepwise regression analysis was tested. The results are shown in the Table 7 and 8.

Table 7 Model summary of test-score predictors

Model	R	R^2	R^2 Change	F	p-value
Benefits	.542	.294	.294	44.982	.000**
Benefits + SE	.601	.362	.068	11.358	.001**
Benefits + SE + Barriers	.621	.385	.023	4.026	.047*

Regarding to the Table 7, the first independent variable that was selected to enter into the regression was perceived benefits of maternal feeding behaviors. Perceived benefits of maternal feeding behaviors could explain for 29.4% of the variance in maternal feeding behaviors for toddlers in Java Island (R^2 = .294) and F = 44.98 ($p<.05$) indicating benefits alone might predict maternal feeding behaviors statistically significant.

The second independent variable that selected to enter the regression was perceived maternal feeding behaviors self-efficacy. The formula that could predict more the maternal feeding behaviors was the combination between perceived benefits of maternal feeding behaviors and perceived maternal feeding behaviors self-efficacy. It could explain for 36.2% of the variance in maternal feeding behaviors for toddlers in Java Island (R^2 = .362) and F = 11.36 ($p<.05$) indicating benefits and self-efficacy together might predict maternal feeding behaviors statistically significant.

And the final formula to predict the maternal feeding behavior was the combination between perceived benefits of maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and perceived barriers to maternal feeding behaviors. They accounted maternal feeding behaviors for 38.5% of variance (R^2 = .385) and F = 4.026 ($p<.05$) indicating benefits, self-efficacy and barriers might predict maternal feeding behaviors statistically significant.

Table 8 Standard multiple regression of independent variables on maternal feeding behaviors (n = 110).

Predictors	b	Seb	Beta	t	p-value
Constant	86.536				
Benefits	2.219	.537	.366	4.135	.000**
SE	5.007	1.395	.313	3.588	.001*
Barriers	-.577	.288	-.155	-2.007	.047*
R= .621	R^2= .385	SE=23.903	F=22.132	p-value = .000**	

Regarding to the Table 8, the predicting equation was:

Maternal feeding behaviors = 86.54 + 2.22 Benefits + 5.00 Self-efficacy - .58 Barriers

The standardized score formulation was:

Maternal feeding behaviors = .366 Benefits + .313 Self-efficacy - .155 Barriers.

CHAPTER V
CONCLUSION, DISCUSSION, AND SUGGESTION

In this chapter, the results are summarized and discussed. Then, the implications for nursing practice and future research are proposed. Finally, the recommendations of the study are addressed.

Conclusion

This study was a predictive correlational research design, aimed at describing the maternal feeding behaviors, examining the relationship between selected predicting factors and maternal feeding behaviors, and identifying the predicting factors of maternal feeding behaviors for toddlers in Java Island, Indonesia. A multistage random sampling was used to identify the sample. There were 110 mothers who had toddlers and lived in Java Island, Indonesia. The data collection was performed from January to February 2015 after obtained the approval letter from the relevant Institutional Review Board (IRB) and the permission letters from each randomly selected sub-districts.

The maternal age ranged from 21 to 46 years old with the majority was 26-35 years old (68.2%). Approximately 86.4% of participants had formal education at least graduated from senior high school.

The research instruments used in this study were; 1) Demographic Characteristic Questionnaire, 2) Maternal Feeding Behaviors Questionnaire (MFBQ), 3) Perceived Benefits of Maternal Feeding Behaviors Questionnaire (BeFBQ), 4) Perceived Barriers to Maternal Feeding Behaviors Questionnaire (BaFBQ), 5) Perceived Maternal Feeding Behaviors Self-efficacy (FBSeQ), and 6) Multidimensional Scale of Perceived Social Support (MSPSS). All of the instruments were satisfactory validity and reliability. Descriptive statistics, bivariate correlation, and multiple regression analyses were used to analyze the data.

The majority of Indonesian mothers in this study (65.5%) performed maternal feeding behaviors at the good level, about 33.6% performed at the moderate level, and only one mother (0.9%) performed at the low level. The findings showed that

perceived benefits of maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and social support had significantly positive relationships with maternal feeding behaviors. Otherwise, the perceived barriers to maternal feeding behaviors had a negative relationship with maternal feeding behaviors. In predicting factors results, the perceived benefits of maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and perceived barriers to maternal feeding behaviors could predict the maternal feeding behaviors for toddlers in Java Island, Indonesia, accounting for 38.5% of the variance of maternal feeding behaviors.

Discussion

The discussion part of this study was based on the objectives of the study. First of all, this study aimed to describe the maternal feeding behaviors for toddlers in Java Island, Indonesia. In this study, maternal feeding behaviors were defined as the activities of mothers related to the maintenance of adequate intake of food for their toddlers involving providing age-appropriate and healthy foods; enhancing good eating behaviors; and promoting a pleasant eating environment (Lusmilasari et al., 2015). It classified into three levels; low, moderate, and good levels of maternal feeding behaviors.

As the result of descriptive analysis, it shown that more than a half of all the mothers had good level of maternal feeding behaviors (65.5%) and only one mother (0.9%) had low level of maternal feeding behaviors. Appropriate maternal feeding behaviors are very important to support toddler's health and development. Through maternal feeding behaviors, mothers can protect their toddlers from several diseases, increase the immune system, support developmental tasks, maintain normal height and weight, etc. (Berlin et al., 2009). Mothers should perform the maternal feeding behaviors for their toddlers appropriately because inappropriate maternal feeding behaviors give several negative impacts on toddlers' health such as diarrhea, typhoid, infection, toxicity, malnutrition, obesity, diabetes, dental carries, hyperactivity, anemia, polio, cancer, cardiovascular diseases (Badan Penelitian and Pengembangan Kesehatan, 2013; Berlin et al., 2009; Mayasari, 2013; Utomo et al., 2000).

The second objective in this study was to examine the relationships between the predicting factors and maternal feeding behaviors. Maternal age, maternal level of education, perceived benefits of maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and social support were hypothesized to have positive relationships with the maternal feeding behaviors. However, the perceived barriers to maternal feeding behaviors was hypothesized to have a negative relationship with maternal feeding behaviors. The findings were not totally match with the hypotheses.

Perceived benefits of maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and social support had significantly positive relationships with the maternal feeding behaviors. The perceived barriers to maternal feeding behaviors had a negative relationship with maternal feeding behaviors. However, maternal age and level of education had no relationship with maternal feeding behaviors.

Regarding to the previous studies, the older mothers have the better maternal feeding behaviors because they are more skill and experience related to performing parenting activities including maternal feeding behaviors (Hope, 2012; Steelman & Westman, 2010). And the higher formal educations of the mothers have the better maternal feeding behaviors. Mothers who have higher education tend to have more abilities to gathering and understanding information related to maternal feeding behaviors (WHO, 1998). However, in this study found that the maternal age and level of education had no relationships with maternal feeding behaviors. These findings were supported by previous study which found that mothers who having better experiences and higher education level not always putting their experiences and knowledge into practice (Guldan et al., 2000).

The higher perception of mothers related to the benefits, self-efficacy, and social support of performing maternal feeding behaviors, the better maternal feeding behaviors. The perceived benefits, self-efficacy, and social support can motivate them to perform the better maternal feeding behaviors. However, the perception of mothers about the barriers to maternal feeding behaviors can force them to restrain for performing maternal feeding behaviors (Pender et al., 2006).

The third purpose of this study was to describe the maternal feeding behaviors, examine the relationship between selected predictors and maternal feeding behaviors, and identify the predicting factors of maternal feeding behavior for toddlers in Java Island, Indonesia.

Maternal age, maternal level of education, perceived benefits of maternal feeding behaviors, perceived barriers to maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and social support were hypothesized to predict the maternal feeding behaviors for toddlers in Java Island, Indonesia.

Among those six independent variables, the result of stepwise regression analysis showed that only perceived benefits of maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and perceived barriers to maternal feeding behaviors could predict the maternal feeding behaviors for toddlers in Java Island accounting for 38.5% of the variance of the maternal feeding behaviors. This result was partially support the hypothesis.

The results indicated that the best predictor of maternal feeding behaviors for toddlers in Java Island was perceived benefits of maternal feeding behaviors. And the second predictor was perceived maternal feeding behaviors self-efficacy, and followed by perceived barriers to maternal feeding behaviors.

These three variables were found to consistently influence maternal feeding behaviors. For example, it was found that perceived benefits could influence mothers in performing appropriate maternal feeding behaviors (Walingo & Mutuli, 2014) by influencing how the mothers could make decisions related to maternal feeding behaviors (Wickham, 2011). Perceived benefits and barriers could influence how Indonesian mothers feed their children (Hayati, Sudiana, Kristiawati, 2014). Perceived self-efficacy had significant correlation with maternal feeding behaviors ($p = 0.001$ and $r = 0.356$) (Pramuditya, 2013) and it was able to influence Indonesian mothers in how they feed their children appropriately (Eksioglu & Ceber, 2011; Leahy-Warren et al., 2013) by decreasing the level of the barriers (Eksioglu & Ceber, 2011). The barriers, such as expense and the costly of the healthy food could restrain Indonesian mothers for performing appropriate maternal feeding behaviors maternal feeding (Ningsih, Kristiawati, Krisnana, 2015).

These three variables are the factors that belong to the behavior-specific cognitions and affect in Pender's HPM (Pender et al., 2006). The behavior-specific cognitions and affect is the major category of Pender's HPM that can influence the behavioral outcome. Behavior-specific cognitions and affect is a critical "core" for intervention. Considering the ten variables in Pender's HPM, these three variables were found consistently influencing a variety of health-promoting behaviors in various groups.

These three predictors of feeding behaviors of Indonesian mothers for their toddlers were also found to be the predictors of health promoting behaviors in other populations such as female professional nurses (Nilrach et al., 2004) and elders with chronic illnesses (Panautai, Sukumwang, & Lasuka, 2005). Although perceived benefits, perceived self-efficacy and perceived barriers are the major parts of behavior-specific cognitions and affect directly motivating behavioral outcome (Pender et al., 2006), the number of predictors and the amount of variance in health promoting behavior explained by these variables varied depending on the type of health-promoting behaviors and populations. Perceived benefits and perceived self-efficacy were found to account for 47% of the variance in health promoting behaviors in pregnant adolescents (Chumsri, 2005), but for only 19.5% of maternal health promotion for toddlers (Sakdapetchsiri, 2002). Perceived barriers and perceived self-efficacy were found to be predictors of compliance in COPD patients, accounting for 43.1% of the variance (Tancharoenrat, 2005) and explaining 51.8% of the variance in health promoting behaviors of pregnant women with induced hypertension (Phanutaecha, 2005). Perceived self-efficacy was found to explain 79.0% of the variance in health-promoting behaviors in nursing students at a Thai governmental university (Wittayapun, Tanasirirug, Butsripoom, Ekspanyaskul, 2010), but account for only 43.3% variance in adults with asthma (Peepratoom, 2005).

Perceived benefits of maternal feeding behaviors was the best predictor of the maternal feeding behaviors for toddlers in Java Island, Indonesia. The result showed that perceived benefits of maternal feeding behaviors was the first to be selected to be entered into the system into the regression with $R^2 = .294$. It indicated that perceived benefits of maternal feeding behaviors was the best predictors of maternal feeding

behaviors and it could account for 29.4% of the variance of maternal feeding behaviors. It was similar to other studies and consistent with Pender's HPM. In Pender's HPM, perceived benefits of action is the major part of behavior-specific cognitions and affect that directly motivate the behavioral outcome (Pender et al., 2006). Mothers more likely provided appropriate maternal feeding behaviors if they perceived that the benefits of maternal feeding behaviors were considered high. It was found that mothers perceived the benefits of maternal feeding behaviors were developmental tasks supports, diseases protection, a healthy weight and normal growth, positive eating attitudes and behaviors, and malnutrition prevention. Therefore, mothers perceived those all benefits as the motivation for them to perform appropriate maternal feeding behaviors.

The second predictor of this study was perceived maternal feeding behaviors self-efficacy. This finding was matched with the Pender's HPM and previous studies. Perceived self-efficacy also belongs to the behavior-specific cognitions and affect in Pender's HPM that can directly influence the behavioral outcome (Pender et al., 2006). The findings indicated that mothers who had high perceived maternal feeding behaviors self-efficacy, they felt more confident in performing appropriate maternal feeding behaviors. Their self-efficacy directly affects the health-promoting behavior. On the other way, mothers who had high self-efficacy, they felt confident and their confident influenced their perception about the barriers to maternal feeding behaviors. Perceived maternal feeding behaviors self-efficacy indirectly influenced the maternal feeding behaviors by decreasing the perceived barriers to maternal feeding behaviors. This result was supported by previous studies. It was found in Indonesia that mothers who perceived high self-efficacy more likely to feed their children appropriately (Eksioglu & Ceber, 2011; Leahy-Warren et al, 2013).

The third predictor of maternal feeding behaviors in this study was perceived barriers to maternal feeding behaviors. It was matched with Pender's HMP. Perceived barriers to action are a cognitive perceptual factor influencing intention to engage in health-promoting behavior (Pender et al., 2006). In this study, the perceived barriers to maternal feeding behaviors were included difficulty, inconvenience, expense, and lack of time. The results found that mothers perceived that prepared hygienically and

healthy food was time-consuming, and expensive. It was also found that mothers perceived that the longer they spent their time outside the home, the more difficult for them to provide an appropriate feeding behavior for their toddlers, because they didn't have enough time to take care their children. They felt that those barriers could prevent them to perform appropriate maternal feeding behaviors. This result was supported by previous studies. It was found that lower income was one of the barriers in providing healthy food because the healthy food was expensive (Best et al., 2008; Darmon et al., 2004; Spruijt-Metz et al., 2006). It was also found that a high number of fats and sweets were related to lower costs (Darmon et al., 2004).

The remaining predictors in this study (maternal age, maternal level of education, and social support) could not predict maternal feeding behaviors for toddlers in Java Island, Indonesia. The maternal age and maternal level of education belong to individual characteristics and experiences in Pender's HPM. Maternal age is one part of the concept biological personal factors, and maternal level of education is one part of the concept sociocultural personal factors. Maternal age and level education are only small concepts in personal factors. Moreover, a personal factor is one of the concepts in individual characteristic and experiences that indirectly influence the health-promoting behaviors. Therefore, maternal age and level of education had weak or low correlation with maternal feeding behaviors, and could not predict the maternal feeding behaviors for toddlers in Java Island, Indonesia.

The other predictor that could not predict the maternal feeding behaviors for toddlers in Java Island, Indonesia was social support. In this study, social support measured by MSPSS that was used to measure social support in general, not specific in maternal feeding behavior. It was happened because if the social support measured by new developed questionnaire that specific to this study, it should follow the concept of this study. And the researcher tried to develop the new instruments, but the final items were too many items. Therefore, in this study used MSPSS to measure the maternal social support. It might be the limitation of this study that social support was measured by general measurement of social support, therefore the social support could not able to predict the maternal feeding behaviors.

Social support comes from the same category with perceived benefits of action, perceived barriers to action, and perceived self-efficacy. However, social support could not predict the maternal feeding behaviors. Even though social support is one part of the behavior-specific cognitions and effect, but social support is only a part of the concept interpersonal influences in Pender's HPM, and also not a main variable as the perceived benefits of action, perceived barriers to action, and perceived self-efficacy.

Perceived benefits of maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and perceived barriers to maternal feeding behaviors could predict the maternal feeding behaviors for toddlers in Java Island accounting for 38.5% of the variance of the maternal feeding behaviors. However, there was accounting for 61.5% of unexplained part that can predict the maternal feeding behaviors. This unexplained part may come from the other concepts of Pender's HPM. Since the three variables that could predict the maternal feeding behaviors came from the major category (behavior-specific cognitions and affect) in Pender's HPM, then it can be presumed that the unexplained part comes from the other concepts in this category such as activity-related to affect, other concepts in interpersonal influences, situational influences, immediate competing demands and preferences, and commitment to plan of action. However, during conducted this study, the researcher could not find enough supporting data about those concepts used in maternal feeding behaviors in particularly. Therefore, it recommended for the future study to do more literature review about this unexplained part in order to predict the maternal feeding behaviors for toddlers.

This findings of this study supported the concept that individual plans to take on certain behaviors by thinking about the benefits to be obtained and their ability to perform. The perceived barriers to maternal feeding behaviors had a negative relationship with maternal feeding behaviors. The results suggested that mothers with decreasing scores of perceived barriers to maternal feeding behaviors had higher scores of maternal feeding behaviors. The results were consistent with previous study.

Therefore, the promoting appropriate maternal feeding behaviors program should guiding the nursing intervention to promote maternal feeding behaviors that

consist of the encouraging the perception of mothers about benefits of maternal feeding behaviors and the perceptions of mothers about maternal feeding behaviors self-efficacy, and the decreasing perception of mothers about barriers to maternal feeding behavior.

Implications for nursing knowledge and nursing practices

Based on the findings of this study, the perceived benefits of maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and perceived barriers to maternal feeding behaviors could predict the maternal feeding behaviors. Thus, the promoting appropriate maternal feeding behaviors program should guiding the nursing intervention to promote maternal feeding behaviors that consist of the encouraging the perception of mothers about benefits of maternal feeding behaviors and the perceptions of mothers about maternal feeding behaviors self-efficacy, and also the decreasing perception of mothers about barriers to maternal feeding behaviors.

Recommendations for future research

The findings of this study found that the perceived benefits of maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and perceived barriers to maternal feeding behaviors could explain only 38.5% of the maternal feeding behaviors. Considering those three variables came from the major category (behavior-specific cognitions and affect) in Pender's HPM, then the next study may include the last variables in this category.

Regarding to the multistage random sampling of this study, there was too small sample size to represent the central region of Java Island, which were only 8 mothers. However, that number of sample size was based on the proportion calculation of the participants in each randomly selected sib-district. Therefore, this study cannot be generalizing to broader population. Then, for the future research may increase the sample size in order to generalizing the findings of the study.

MFBQ in this study was long and time-consuming, then the future study may modify it to be more practical. And also for MSPSS, it was used to measure the social support. However, MSPSS by Zimet et al. (1988) was used to measure social support in general, not specific in maternal feeding behaviors. Therefore, it should be modified in order to get better and more valid result about maternal social support especially related to maternal feeding behaviors.

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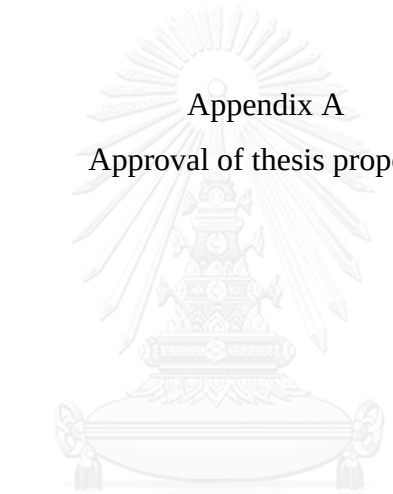
APPENDIX

Appendix A
Approval of thesis proposal



Announcement
Faculty of Nursing, Chulalongkorn University
Proposal Approved in the academic year 2013

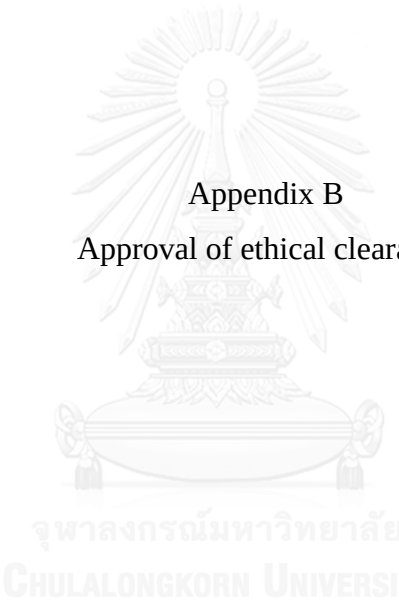
ID	5577211736
Name	Miss Ethic Palupi
Academic Program	Master of Nursing Science Program in Nursing Science
Chairperson	Assoc. Prof. Dr. Ratsiri Thato
Major-advisor	Assoc. Prof. Dr. Waraporn Chaiyawat
External Examiner	Dr. Choosak Khampalikit
Title of Thesis	SELECTED FACTORS PREDICTING MATERNAL FEEDING BEHAVIORS FOR TODDLERS, JAVA ISLAND, INDONESIA

Approval by Faculty Board No. 7/2014, April 23, 2014.

Announce date May 1, 2014

Sunida Preechawong

(Sunida Preechawong, Ph.D.)
Associate Professor and Acting Dean, Faculty of Nursing



Appendix B

Approval of ethical clearance

MEDICAL AND HEALTH RESEARCH ETHICS COMMITTEE (MHREC)
FACULTY OF MEDICINE GADJAH MADA UNIVERSITY
– DR. SARDJITO GENERAL HOSPITAL

ETHICS COMMITTEE APPROVAL

Ref: KE/FK/1400 /EC

Title of the Research Protocol	:	Selected Factors Predicting Maternal Feeding Behaviors for Toddlers Java Island Indonesia
Documents Approved	:	1. Study Protocol versi 01 2014 2. Information for Subjects versi 01 2014 3. Informed consent form versi 01 2014
Principle Investigator	:	Ethic Palupi
Name of supervisor	:	Associate Professor Waraporn Chaiyawat, DNS. RN, APN
Date of Approval	:	23 DEC 2014 (Valid for one year beginning from the date of approval)
Institution(s)/place(s) of research	:	Pulau Jawa

The Medical and Health Research Ethics Committee (MHREC) states that the above protocol meets the ethical principle outlined in the Declaration of Helsinki 2008 and therefore can be carried out.

The Medical and Health Research Ethics Committee (MHREC) has the right to monitor the research activities at any time.

The investigator(s) is/are obliged to submit:
□ Progress report as a continuing review : Annually
□ Report of any serious adverse events (SAE)
☑ Final report upon the completion of the study

Prof. dr. Ngatidjan, M.Sc., Sp.FK(K)
Chairman

dr. Ariel Budiyanto, Ph.D., Sp.SK
Secretary

Attachments:
□ Continuing review submission form (AF 4.3.01-014.2013-03)
□ Serious adverse events (SAE) report form (AF 6.1.01-019.2013-03)

Appendix C
Permission letters

KANTOR KESATUAN BANGSA DAN POLITIK

Jalan M.H Thamrin No.33 Telp.(0351) 746249 Ngawi
Fax(0351)746249 Email : Kesbang@ngawikab.go.id
Website:http/www.kesbang.ngawikab.go.id

REKOMENDASI PENELITIAN / SURVEY / KEGIATAN

Nomor : 072 / 015 / 404.208 / 2015

Dasar : 1.Peraturan Menteri Dalam Negeri Republik Indonesia Nomor 64 Tahun 2011 tentang Pedoman Penerbitan Rekomendasi Penelitian, Sebagaimana Telah Di Ubah Dengan Peraturan Menteri Dalam Negeri Nomor 7 Tahun 2014 Tentang Perubahan Atas Peraturan Menteri Dalam Negeri Nomor 64 Tahun 2011.

Menimbang : Surat Dari SEKOLAH TINGGI ILMU KESEHATAN BETHESDA YAKKUM Tanggal 19 Januari 2015 , Nomor : 0149 / SB / PP.05.02.00/I / 2015 Perihal Permohonan Ijin Penelitian

Bupati Ngawi, memberikan rekomendasi kepada :

a.	Nama	:	Ns.Ethic Palupi ,S.Kep
b.	Alamat	:	Ngarum RT 005 RW 004 Desa NgarumKec.Ngrampal Kab.Sragen
c.	Pekerjaan / Jabatan	:	Mahasiswa
d.	Instansi/Civitas/Organisasi	:	Sekolah Tinggi Ilmu Kesehatan Bethesda Yakkum Yogyakarta
e.	Kebangsaan	:	Indonesia

Untuk melakukan penelitian/survey/kegiatan dengan :

a.	Judul Proposal	:	" Selected Factors Predicting Materna Feeding Behaviours For Toddlers ,Java Island, Indonesia "
b.	Tujuan	:	Permintaan data untuk mendukung penyusunan Tesis
c.	Bidang Penelitian	:	Kesehatan
d.	Penanggung Jawab	:	Associate Prof.Waraporn Chaiyawat,DNS,RN,APN
e.	Anggota / Peserta	:	-
f.	Waktu Penelitian	:	2 bulan (Pebruari s/d Maret) 2015
g.	Lokasi Penelitian	:	PuskesmasTambakBoyo Kabupaten Ngawi

Dengan Ketentuan
1. Berkewajiban menghormati dan mentaati peraturan dan tata tertib di daerah setempat / lokasi penelitian / survey / kegiatan;
2. Pelaksanaan penelitian agar tidak disalah gunakan untuk tujuan tertentu yang dapat mengganggu kestabilan keamanan dan ketertiban di daerah / lokasi setempat;
3. Wajib melaporkan hasil penelitian dan sejenisnya kepada Bupati Ngawi melalui Kantor Kesatuan Bangsa dan Politik Kabupaten Ngawi dalam kesempatan pertama.

Demikian rekomendasi ini di buat untuk dipergunakan seperlunya.

Ngawi, 9 Februari 2015

KEPALA KANTOR KESATUAN BANGSA ,
DAN POLITIK KABUPATEN NGAWI

KANTOR KESATUAN BANGSA DAN POLITIK

RAHMAD DIDIK PURWANTO, S.Sos,M.Si
Pembina Tk I
NIP. 19680424 198903 1 010

Tembusan disampaikan kepada :

Yth. Sdr.
1. Kepala Dinas Kesehatan Kab. Ngawi;
2. Kepala Puskesmas Tambakboyo
3. Camat Mantingan;
4. Kepala Desa Tambakboyo;
5. Ketua Sekolah Tinggi Ilmu Kesehatan Bethesda Yakkum Yogyakarta;
6. Yang Bersangkutan.

PEMERINTAH KABUPATEN KARAWANG
KANTOR KESATUAN BANGSA DAN POLITIK

Jln. A. Yani No.33 Karawang Telp. : (0267) 8454724

Karawang, 15 Februari 2015

Nomor : 070.1/ 31 /BIWK/2015
Lampiran : -
Perihal : Ijin Penelitian/ Observasi/ Pengambilan Data.

Kepada
Yth. Kepala Puskesmas Klari Kab. Karawang
di-

KARAWANG

REKOMENDASI

Berdasarkan Peraturan Bupati Karawang Nomor 23 Tahun 2013 tentang Pelimpahan sebagian Urusan Pemerintah dari Bupati kepada Organisasi Perangkat Daerah Kabupaten Karawang, Peraturan Bupati Karawang Nomor 25 Tahun 2012 tentang rincian tugas, fungsi dan Tata Kerja Kantor Kesatuan Bangsa dan Politik Kabupaten Karawang, dan Surat dari Ketua STIKES Bethesda Yakkum Yogyakarta Nomor : 0024/SB/PP.05.02.00/I/2015 tanggal 6 Januari 2015 Perihal Permohonan Ijin Penelitian.

Atas dasar tersebut, dengan ini kami informasikan hal-hal sebagai berikut :

1. Peserta yang diturunkan :
   - N a m a : **Ns. ETHIC PALUPI, S.Kep.**
   - NIDN : 0504098601
   - Prodi : S.1 Ilmu Keperawatan
   - Judul Penelitian : Selected Factors Predicting Maternal Feeding Behaviors for Toddlers, Java Island, Indonesia
   - Waktu Pelaksanaan : **Februari 2015 s/d Maret 2015**
2. Apabila situasi memungkinkan, kami merekomendasikan kegiatan tersebut dapat dilaksanakan di wilayah / tempat / unit kerja Saudara ;
3. Ikuti petunjuk Pimpinan / Ketua / Kepala / di tempat melaksanakan Penelitian / Observasi / PKL dan taati ketentuan peraturan perundang-undangan yang berlaku ;
4. Catatan apabila pemohon telah selesai melaksanakan kegiatan, agar memberitahukan secara tertulis.

Demikian agar maklum.

KEPALA KANTOR KESBANG DAN POLITIK
KABUPATEN KARAWANG

KANTOR KESBANG DAN POLITIK

H. [illegible]ANA RUSWANA, SH.MH
Pembina
NIP. 19681207 199603 1 005

Tembusan Yth :
1. Bupati Karawang (sebagai laporan) ;
2. Ketua STIKES Bethesda Yakkum Yogyakarta ;
3. Kepala Dinas Kesehatan Karawang ;
4. Arsip.

PEMERINTAHAN KOTA YOGYAKARTA
DINAS PERIZINAN
Jl. Kenari No. 56 Yogyakarta 55165 Telepon 514448, 515865, 515865, 515866, 562682
Fax (0274) 555241
E-MAIL : perizinan@jogjakota.go.id
HOTLINE SMS : 081227625000 HOT LINE EMAIL : upik@jogjakota.go.id
WEBSITE : www.perizinan.jogjakota.go.id

SURAT IZIN

NOMOR : 070/0503
0956/34

Membaca Surat : Dari Ketua STIKES Bethesda Yakkum Yogyakarta
Nomor : 0145/SB/PP.05.02.00/I/2015 Tanggal : 19 Januari 2015

Mengingat :
1. Peraturan Gubernur Daerah istimewa Yogyakarta Nomor : 18 Tahun 2009 tentang Pedoman Pelayanan Perizinan, Rekomendasi Pelaksanaan Survei, Penelitian, Pendataan, Pengembangan, Pengkajian dan Studi Lapangan di Daerah Istimewa Yogyakarta.
2. Peraturan Daerah Kota Yogyakarta Nomor 10 Tahun 2008 tentang Pembentukan, Susunan, Kedudukan dan Tugas Pokok Dinas Daerah;
3. Peraturan Walikota Yogyakarta Nomor 29 Tahun 2007 tentang Pemberian Izin Penelitian, Praktek Kerja Lapangan dan Kuliah Kerja Nyata di Wilayah Kota Yogyakarta;
4. Peraturan Walikota Yogyakarta Nomor 85 Tahun 2008 tentang Fungsi, Rincian Tugas Dinas Perizinan Kota Yogyakarta;
5. Peraturan Walikota Yogyakarta Nomor 18 tahun 2011 tentang Penyelenggaraan Perizinan pada Pemerintah Kota Yogyakarta,

Diijinkan Kepada :

Nama	:	ETHIC PALUPI
No. Mhs/ NIM	:	0504098601
Pekerjaan	:	Peneliti STIKES Bethesda Yakkum Yogyakarta
Alamat	:	Jl. Johar Nurhadi No. 6 Yogyakarta
Penanggungjawab	:	Niken WN Palupi, S.Kp., M.Kes.
Keperluan	:	Melakukan Penelitian dengan judul Proposal : SELECTED FACTORS PREDICTING MATERNAL FEEDING BEHAVIORS FOR TODDLERS, JAVA ISLAND, INDONESIA

Lokasi/Responden : Kota Yogyakarta
Waktu : 12 Februari 2015 s/d 12 Mei 2015
Lampiran : Proposal dan Daftar Pertanyaan
Dengan Ketentuan :
1. Wajib Memberikan Laporan hasil Penelitian berupa CD kepada Walikota Yogyakarta (Cq. Dinas Perizinan Kota Yogyakarta)
2. Wajib Menjaga Tata tertib dan menaati ketentuan-ketentuan yang berlaku setempat
3. Izin ini tidak disalahgunakan untuk tujuan tertentu yang dapat mengganggu kesetabilan pemerintahan dan hanya diperlukan untuk keperluan ilmiah
4. Surat izin ini sewaktu-waktu dapat dibatalkan apabila tidak dipenuhinya ketentuan-ketentuan tersebut diatas

Kemudian diharap para Pejabat Pemerintahan setempat dapat memberikan bantuan seperlunya

Dikeluarkan di : Yogyakarta
Pada Tanggal : 12-2-2015
An. Kepala Dinas Perizinan
Sekretaris

Tanda Tangan
Pemegang Izin

ETHIC PALUPI

ENY RETNOWATI, SH
NIP. 196103031988032004

Tembusan Kepada :
Yth 1.Walikota Yogyakarta (Sebagai Laporan)
2.Ka. Dinas Kesehatan Kota Yogyakarta
3.Ka. Puskesmas Kraton Kota Yogyakarta
4.Ketua STIKES Bethesda Yakkum Yogyakarta
5.Ybs.

PEMERINTAH KOTA YOGYAKARTA
DINAS KESEHATAN
Jalan Kenari 56, Yogyakarta 55165 Telepon (0274) 515866, 515869 Faksimile (0274) 515869
EMAIL : kesehatan@jogjakota.go.id
HOT LINE SMS : 08122780001 HOTLINE EMAIL : upik@jogjakota.go.id
WEB SITE : www.jogjakota.go.id

Yogyakarta 10 - 2 - 2015

Nomor : 070/ 1451
Hal : Rekomendasi izin penelitian

Yth. Kepala Dinas Perizinan
Kota Yogyakarta
Di-
YOGYAKARTA

Berdasarkan surat dari Ketua STIKES Bethesda Yakkum Nomor 0146/SB/PP.05.02.00/I/2015 tanggal 19 Januari 2015 perihal pada pokok surat, bahwa

Nama : Ns. Ethic Palupi,S.Kep
No MHS/NIM : 0504098601
Pekerjaan : Mahasiswa STIKES Bethesda Yakkum Yogyakarta
Alamat : Jalan Johar Nurhadi No 6 Yogyakarta

Dengan ini kami sampaikan bahwa pada prinsipnya kami tidak berkeberatan dan memberikan rekomendasi penelitian dengan judul karya tulis ilmiah/skripsi :

Selected Factors Predicting Maternal Feeding Behaviours for Toddlers, Java Islands, Indonesia

Demikian rekomendasi penelitian ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

a. n. Kepala
Sekretaris,

Drs. Hardono
NIP 19580410198503 1 013

Tembusan :
1. Kepala Puskesmas Kraton Kota Yogyakarta

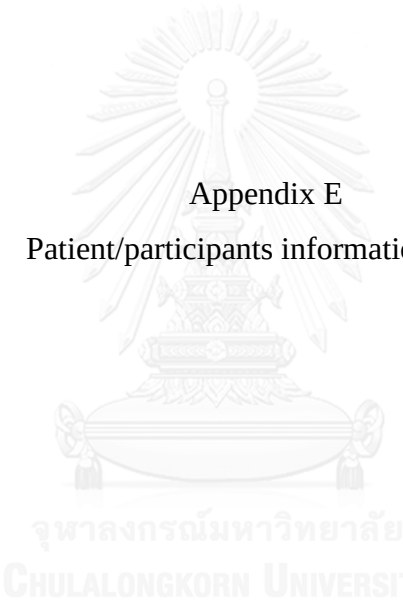
Appendix D
List of experts

List of Experts

1. Ns. Meira Erawati, S. Kep., M. Si. Med.
   School of Nursing Science, Faculty of Medicine, Diponegoro University, Indonesia.
2. Ns. Zubaidah, S. Kep., M. Kep., Sp. An.
   School of Nursing Science, Faculty of Medicine, Diponegoro University, Indonesia.
3. Lely Lusmilasari, S. Kp., M. Kes.
   School of Nursing Science, Faculty of Medicine, Gadjah Mada University, Indonesia.
4. Hj. Henny Suzana Mediani, S. Kp., MNg., Ph.D.
   Faculty of Nursing, Padjadjaran University, Indonesia.
5. Dr. Fitri Haryanti, S. Kp., M. Kes.
   School of Nursing Science, Faculty of Medicine, Gadjah Mada University, Indonesia.

Appendix E

Patient/participants information sheet



Patient/participants Information Sheet

1. **Title:** Selected Factors Predicting Maternal Feeding Behaviors for Toddlers, Java Island, Indonesia.
2. **Researcher Name:** Miss. Ethic Palupi
3. **Office:** Bethesda Yakkum School of Health Science

   Office : (+62274) 524565

   Mobile Phone : +628561639334

   Email : ethic_lupi@yahoo.com
4. **Information relevant to informed consent form in this study** consists of:

   I am graduate student in Nursing Science at Chulalongkorn University, doing a master degree thesis on maternal feeding behaviors for toddlers. The purpose of this information is to tell you about the researcher and to allow you to make a clear decision about whether you would like to participate or not.

   4.1. The objective of this study is to; a) describe the maternal feeding behaviors for toddlers in Java Island, Indonesia; 2) examine the correlations between maternal age, maternal level of education, perceived benefits of maternal feeding behaviors, perceived barriers to maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, social support, and maternal feeding behaviors; and 3) identify the predicting factors of maternal feeding behaviors for toddlers.

   4.2. The benefits of the conducting this study will help nurses, health care providers and policy makers to understand the predicting factors of maternal feeding behaviors for toddlers.

   4.3. The participants are mothers who have toddlers (1-3 years old) and live in Java Island, Indonesia. A multi-stage sampling technique will use to identify the samples.

   4.4. Participants will participate in the study after they got explanation about the detail and the method of the study. Participants will have been asked to answer questionnaires dealing with demographic characteristics, perceived benefits of maternal feeding behaviors, perceived barriers to maternal feeding

behaviors, perceived maternal feeding behaviors self-efficacy, social support. It will take about 30-45 minutes for participants to answer the questionnaire.

4.5. Participants will be informed that they can take a break whenever they feel uncomfortable or tired.

4.6. Participation in this study will be strictly voluntary and participants may drop out of the study at any time, without penalty. This study will not impact to participants' health and expenditure, if they are not participating in this study.

4.7. Participants can contact the researcher Ethic Palupi, at the Bethesda Yakkum School of Health Science, by calling (+62274) 524565, or via cell phone +628561639334.

4.8. The information of the study will be presented the summary of the findings as a whole. Each participant will be assigned a number and his or her name will not be connected with this study in any way when the results are reported. The researcher will make every effort to keep the participants' identities confidential. Only the researcher will have accessed to the participants' information. However, this information will be disclosed upon court order.

4.9. The total number of participants in this study will be around 110 participants.

Appendix F

Informed consent form

Informed Consent Form

Title: Selected Factors Predicting Maternal Feeding Behaviors for Toddlers, Java Island, Indonesia.

Code number: population or participant.....

I was informed by the researcher namely Ethic Palupi, Master in Nursing Science student, Faculty of Nursing, Chulalongkorn University.

I am willing to take part in this researcher study, which helps nurses, health care provider and policy maker understand the predicting factors of maternal feeding behaviors fot toddlers in Java Island, Indonesia. The study aims to identify the predicting factors of maternal feeding behaviors for toddlers in Java Island, Indonesia.

I know that I will be the one out of 110 mothers who asked to answer some questions about personal data, perceived benefits of maternal feeding behaviors, perceived barriers to maternal feeding behaviors, perceived maternal feeding behaviors self-efficacy, and maternal social support. These will be taker 30-45 minutes.

I have been told that I can take a break whenever I feel uncomfortable or tired. I know that I am strictly voluntary in this study, or I can drop out of the study at any time without penalty. Whenever I am in the study or not, there will be no affected on my health, or expenditure.

I have been told about the reason for the study and about my part in it, and I have been able to ask question. I will be assigned a number and name will be not be connected with this study in any way when the results are reported. The researcher will make avery effort to keep my identity confidential. Only the researcher will have accessed to any my information. However, this is no guarantee that this information cannot be obtained by court order.

I understand that during the study I can contact the researcher by calling Ethic Palupi, at the Bethesda Yakkum School of Health Science, by calling (+62274) 524565, or via cell phone +628561639334.

I have read the information above. I am willing to be in this study and participation is voluntary. After I sign on this form, I understand I will received a copy of this consent form.

....

Place/Date Name of participant

....

Place/Date Main researcher signature

....

Place/Date Witness signature

Appendix G

Research instruments

Demographic Characteristic Questionnaire

Please fill out the form and put cross mark (V) the answers that apply to you

1. How old are you? _____ years old.
2. What is the lastest level of your formal education?_____in grade_____
3. What is your marital status?
   - ☐ Married
   - ☐ Separated
   - ☐ Divorced
   - ☐ Others (please specify)_____
4. What is your ethnicity?
   - ☐ Javanese
   - ☐ Other ethnic (please specify)_____
5. What is your religion?
   - ☐ Islam
   - ☐ Buddhism
   - ☐ Christianity Protestantism
   - ☐ Hinduism
   - ☐ Christianity Roman Catholicism
   - ☐ Other (please specify)_____
6. What is your occupation?_____
7. How many hours in average do you spend time outside the home each day?_____ hours/day.
8. Who will take care your toddler when you spend time outside the home?_____
9. How many children do you have?_____ children.
10. Which number of children is your toddler? _____
11. How old is your toddler?_____ years old.
12. What is the gender of your toddler?
    - ☐ Male
    - ☐ Female
13. How many total family member live in the same house?_____people.
14. How much your average income/day: Rp._____
15. Have you ever get an health education from health care providers about nutrition for children, such as what kind of nutrition that needed by your children, how much nutrition that they need, what is an appropriate feeding behavior, how to perform an appropriate feeding behavior, etc?
    - ☐ No
    - ☐ Yes

    If YES, what is the topic?_____

    _____

    _____

Example of Maternal Feeding Behaviors Questionnaire (MFBQ)

Instruction:

Please answer the following questions according to how often you perform the following activities for your toddler by marking √.

Items	1 Never	2 Rarely	3 Sometimes	4 Most of The Time	5 Always
A. Provide food that are balanced, healthy, and safety: 1. I learn about balanced, healthy and safety foods for toddlers from health care provider, cadre (health volunteer at health center in sub-village) or others.					
2. I ask health care provider about balanced, healthy, and safety foods for toddlers during visiting to primary health center or hospital.					
: : : : : : : : : : : : : : : :					
B. Help the toddlers to enhance good eating behavior: 1. I learn about eating characteristic of toddlers from pamphlets, health provider, or others.					
2. I ask about parents' role to develop and maintain good eating behavior of toddlers from health provider, other parents, cadre, or others.					
: : : : : : : : : : : : : : : :					
C. Promote a pleasant eating environment for my child: 1. I learn to know about the characteristic of eating environment that are pleasant for toddlers from various sources (book/pamphlets, electronic media, health provider, or others).					
2. I learn how to feeding interestingly for toddlers from various resources (book/pamphlets, electronic media, or others).					
: : : : : : : : : : : : : : : :					

Example of Perceived Benefits of Maternal Feeding Behaviors Questionnaire (BeFBQ)

Instruction:

BeFBQ seeks information about your positive outcomes of appropriate maternal feeding behaviors for your toddler. Please read each statement and select the response that is in best agreement with your personal perception, by marking √.

Items	1 Strongly Disagree	2 Disagree	3 Neither Disagree/ Agree	4 Agree	5 Strongly Agree
1. Providing age-appropriate and healthy foods to my toddler makes me happy.					
2. Providing a pleasant eating environment for my toddler makes me happy.					
: : : : : : : : : : : : : : : :					

Example of Perceived Barriers to Maternal Feeding Behaviors Questionnaire (BaFBQ)

Instruction:

BaFBQ seeks information about your obstacles of appropriate maternal feeding behaviors for your toddler. Please read each statement and select the response that is in best agreement with your personal perception, by marking √.

Items	1 Strongly Disagree	2 Disagree	3 Neither Disagree/ Agree	4 Agree	5 Strongly Agree
1. Providing age-appropriate and healthy foods to my toddler is too difficult to apply in everyday life.					
2. Enhancing good eating behaviors of my toddler is too difficult to apply in everyday life.					
: : : : : : : : : : : : : : : :					

Example of Perceived Maternal Feeding Behaviors Self-efficacy Questionnaire (FBSeQ)

Instruction:

FBSeQ seeks information about your cability to perform appropriate maternal feeding behaviors for your toddler. Please read each statement and select the response that is in best agreement with your personal perception, by marking √.

Items	1 Very Not Confidence	2 Not Confidence	3 A little Confidence	4 Confidence	5 High Confidence
1. I am confident that I can always provide age-appropriate and healthy foods to my toddler.					
2. I am confident that I can always help my toddler to enhance good eating behaviors.					
: : : : : : : : : : : : : : : :					

Example of Multidimensional Scale of Perceived Social Support (MSPSS)

Instruction:

MSPSS seeks information about your perception of assistance that you receive from family, friends, or significant others. Please read each statement and select the response that is in best agreement with your personal perception, by marking √.

Items	1 Very Strongly Disagree	2 Strongly Disagree	3 Mildly Disagree	4 Neutral	5 Mildly Agree	6 Strongly Agree	7 Very Strongly Agree
1. There is a special person who is around when I am in need.							
2. There is a special person with whom I can share my joys and sorrows.							
: : : : : : : : : : : : : : : :							

Appendix H

Permission letter from the questionnaires' author

Subject: RE: Ask Permission of MSPSS (1988)

From: Zimet, Gregory D (gzimet@iu.edu)

To: ethic_lupi@yahoo.com;

Date: Friday, October 10, 2014 9:44 PM

Dear Ethic Palupi,

You have my permission to translate the MSPSS into Bahasa Indonesia language and use it for your research study. I have attached the original English language version of the scale and a document listing several articles that have reported on the psychometric properties of the MSPSS.

After you complete your translation, please send a copy to me. I try to keep track of the various translations of the MSPSS and it helps me to connect researchers to each other (if someone else contacts me about translating the MSPSS into Bahasa Indonesia, I can refer them to you).

Sincerely,
Greg Zimet

==========

Gregory D. Zimet, PhD
Professor of Pediatrics & Clinical Psychology
Section of Adolescent Medicine
Indiana University School of Medicine
Health Information & Translational Sciences
410 W. 10th Street, HS 1001
Indianapolis, IN 46202
USA
Phone: +1-317-274-8812
Fax: +1-317-274-0133
e-mail:

-----Original Message-----
From: Ethic Palupi [mailto:]
Sent: Wednesday, October 08, 2014 4:12 AM
To: Zimet, Gregory D
Cc:
Subject: Ask Permission of MSPSS (1988)

Dear
Gregory D. Zimet, PhD, HSPP.
Professor of Pediatrics & Clinical Psychology

I hope this mail finds you well. My name is Ethic Palupi, I am from Indonesia. Currently, I am a Master student of Faculty of Nursing, Chulalongkorn University, Thailand. My subject is Pediatric Nursing and I am in the process of my Master's Degree thesis. I am developing the thesis entitled "Selected Factors Predicting Maternal Feeding Behaviors for Toddlers, Java Island, Indonesia". The objective in this study is to identify the predicting factors of maternal feeding behaviors for toddlers in Java Island, Indonesia. Those factors are Maternal Age, Maternal Level of Education, Perceived Benefits of Maternal Feeding Behaviors, Perceived Barriers to Maternal Feeding Behaviors, Perceived Maternal Feeding Behavior Self-efficacy, and Maternal Social Support. For assess Maternal Social Support, I plan to use "Multidimensional Scale of Perceived Social Support (MSPSS)" (12-items) that you developed in 1988.

Therefore, I would like to ask the permission to use your scale "Multidimensional Scale of Perceived Social Support (MSPSS)". The questionnaire will be translated into Bahasa Indonesia with back translation processes.

I would be pleased to include a full citation to your work and other acknowledgement as you might request. I would greatly appreciate your permission. If you require further information, or if there are any conditions that would facilitate the permissions process, please do not hesitate to contact me at

Thank you for considering my request. I look forward to your response.

Sincerely,

Ethic Palupi
Student of International Program
Master in Nursing Science
Faculty of Nursing, Chulalongkorn University
Bangkok, Thailand
Phone: (+668) 80614116

Subject: Re: Ask Permission to Modify PFBQ

From: Lely Lusmilasari (lely_lusmilasari@yahoo.com)

To: ethic_lupi@yahoo.com;

Date: Monday, May 25, 2015 11:50 AM

Dear Ethic Palupi,

You have my permission to modify the Parental Feeding Behaviors Questionnaire (PFBQ) and use it for your research study. I have attached the original version of PFBQ and a document that report the psychometric properties of the PFBQ.
After you complete your modification, please send a copy to me. Thank you.

Sincerely,

Lely Lusmilasari
School of Nursing, Faculty of Medicine, Universitas Gadjah Mada
Phone: (668)73370734
E-mail: lely_psik@ugm.ac.id)

On Friday, May 8, 2015 2:35 PM, Ethic Palupi <ethic_lupi@yahoo.com> wrote:

Dear
Mrs. Lely Lusmilasari, S. Kp., M. Kes.
Lecturer in Gadjah Mada University, Indonesia.

I hope this mail finds you well. My name is Ethic Palupi, I am from Indonesia. Currently, I am a Master student of Faculty of Nursing, Chulalongkorn University, Thailand. My subject is Pediatric Nursing and I am in the process of my Master's Degree thesis. I am developing the thesis entitled "Selected Factors Predicting Maternal Feeding Behaviors for Toddlers, Java Island, Indonesia". The objective in this study is to identify the predicting factors of maternal feeding behaviors for toddlers in Java Island, Indonesia. Those factors are Maternal Age, Maternal Level of Education, Perceived Benefits of Maternal Feeding Behaviors, Perceived Barriers to Maternal Feeding Behaviors, Perceived Maternal Feeding Behavior Self-efficacy, and Social Support. For assess Maternal Feeding Behavior, I plan to modify "Parental Feeding Behavior Questionnaire (PFBQ)" (56-items) that you developed.

Therefore, I would like to ask the permission to modify your questionnaire "Parental Feeding Behavior Questionnaire (PFBQ)". The modification only change the term "parents" into "mothers", for the contents, items, and total items are the same.

I would be pleased to include a full citation to your work and other acknowledgement as you might request. I would greatly appreciate your permission. If you require further information, or if there are any conditions that would facilitate the permissions process, please do not hesitate to contact me at

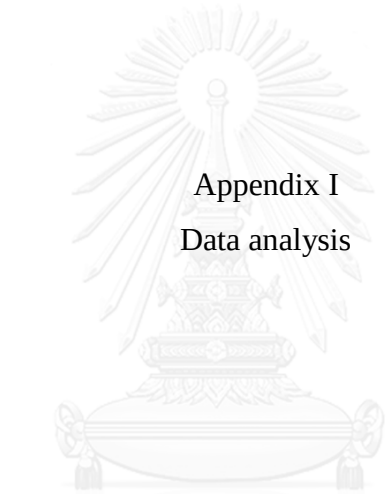
Thank you for considering my request. I look forward to your response.

Sincerely,

Ethic Palupi
Student of International Program
Master in Nursing Science
Faculty of Nursing, Chulalongkorn University
Bangkok, Thailand
Phone: (+668) 80614116

Appendix I

Data analysis



Data Analysis

Table 9 Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
MFBQ	110	217.11	28.819	-.114	.230	1.220	.457
Age	110	32.21	5.190	.409	.230	-.061	.457
Edu	110	6.48	2.769	.067	.230	.515	.457
Benefits	110	39.13	4.957	-1.395	.230	3.566	.457
Barriers	110	27.52	8.094	1.177	.230	1.296	.457
Self-efficacy	110	12.00	1.882	-.488	.230	.998	.457
Social support	110	65.05	9.806	-1.556	.230	6.623	.457
Valid N (listwise)	110						

Table 10 Correlations

		MFBQ	Age	Edu	Benefits	Barriers	SE	SS
Pearson Correlation	MFBQ	1.000	.065	.141	.542	-.213	.490	.196
	Age	.065	1.000	-.096	.056	-.005	.096	.077
	Edu	.141	-.096	1.000	.193	-.350	.004	.005
	Benefits	.542	.056	.193	1.000	-.160	.483	.249
	Barriers	-.213	-.005	-.350	-.160	1.000	.002	.128
	SE	.490	.096	.004	.483	.002	1.000	.354
	SS	.196	.077	.005	.249	.128	.354	1.000
Sig. (1-tailed)	MFBQ	.	.250	.071	.000	.013	.000	.020
	Age	.250	.	.158	.282	.478	.160	.211
	Edu	.071	.158	.	.022	.000	.485	.478
	Benefits	.000	.282	.022	.	.047	.000	.004
	Barriers	.013	.478	.000	.047	.	.490	.091
	SE	.000	.160	.485	.000	.490	.	.000
	SS	.020	.211	.478	.004	.091	.000	.
N	MFBQ	110	110	110	110	110	110	110
	Age	110	110	110	110	110	110	110
	Edu	110	110	110	110	110	110	110
	Benefits	110	110	110	110	110	110	110

	Barriers	110	110	110	110	110	110	110
	SE	110	110	110	110	110	110	110
	SS	110	110	110	110	110	110	110

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 11 Variables entered/removed[a]

Model	Variables Entered	Variables Removed	Method
1	Benefits	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	Self-efficacy	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
3	Barriers	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: MFBQ

Table 12 Model summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.542[a]	.294	.287	25.374	
2	.601[b]	.362	.350	24.238	
3	.621[c]	.385	.368	23.903	1.557

a. Predictors: (Constant), Benefits

b. Predictors: (Constant), Benefits, Self-efficacy

c. Predictors: (Constant), Benefits, Self-efficacy, Barriers

d. Dependent Variable: MFB

Table 13 ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28961.483	1	28961.483	44.982	.000[a]
	Residual	69535.571	108	643.848		
	Total	98497.055	109			
2	Regression	35634.492	2	17817.246	30.327	.000[b]
	Residual	62862.562	107	587.501		
	Total	98497.055	109			
3	Regression	37934.786	3	12644.929	22.132	.000[c]
	Residual	60562.269	106	571.342		
	Total	98497.055	109			

a. Predictors: (Constant), Benefits
b. Predictors: (Constant), Benefits, Self-efficacy
c. Predictors: (Constant), Benefits, Self-efficacy, Barriers
d. Dependent Variable: MFB

Table 14 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	88.897	19.336		4.597	.000
	Benefits	3.288	.490	.542	6.707	.000
2	(Constant)	65.978	19.683		3.352	.001
	Benefits	2.418	.535	.399	4.521	.000
	Self-efficacy	4.748	1.409	.297	3.370	.001
3	(Constant)	86.536	21.948		3.943	.000
	Benefits	2.219	.537	.366	4.135	.000
	Self-efficacy	5.007	1.395	.313	3.588	.001
	Barriers	-.577	.288	-.155	-2.007	.047

a. Dependent Variable: MFBQ

Table 14 (Con't) Coefficients[a]

Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	Benefits	.542	.542	.542	1.000	1.000
	Benefits	.542	.400	.349	.767	1.304
	Self-efficacy	.490	.310	.260	.767	1.304
3	Benefits	.542	.373	.315	.741	1.350
	Self-efficacy	.490	.329	.273	.760	1.315
	Barriers	-.213	-.191	-.153	.966	1.035

a. Dependent Variable: MFB

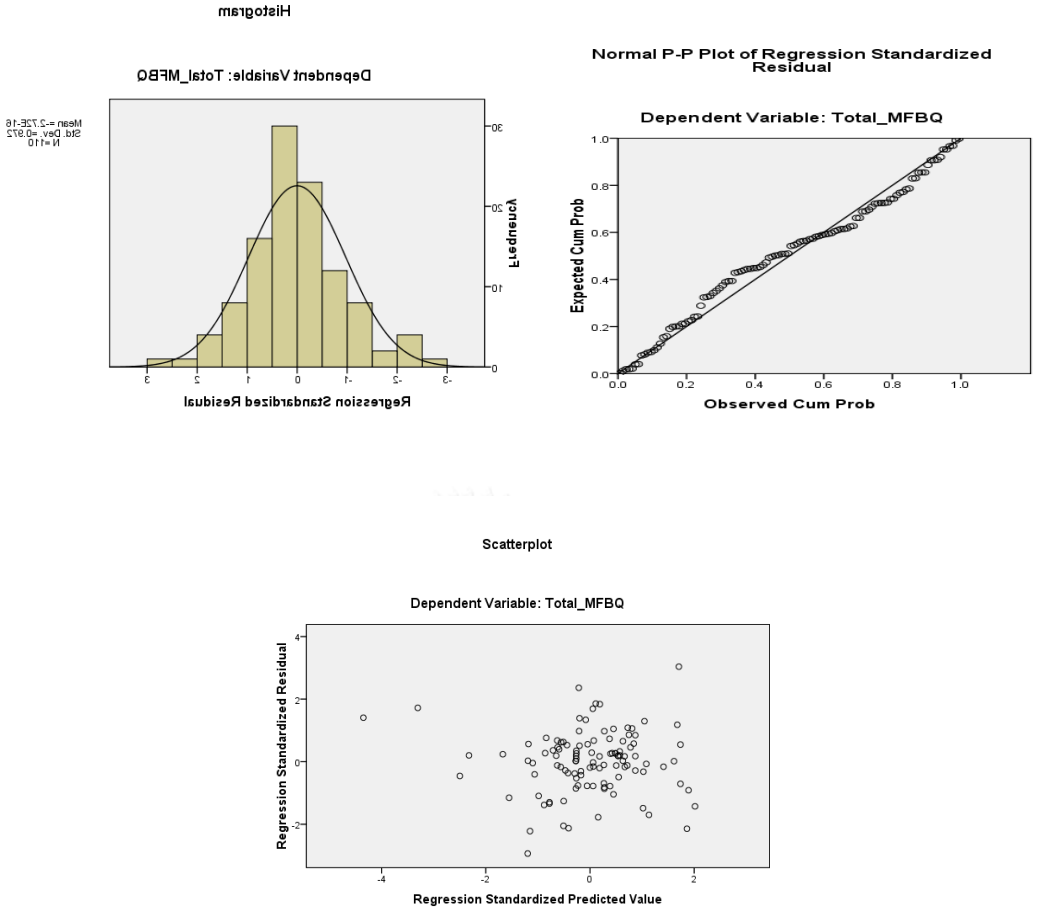


Figure 4 Assumptions of normality, linearity, and homoscedasticity

VITA

My name is Ethic Palupi, my nick name is Ethic. I am studying in Master in Nursing Science Program with specialty in Pediatric Nursing in Chulalongkorn University, Bangkok, Thailand. I was born at Sragen, Central Java, Indonesia on September 4th, 1986. I am a Christian female with Indonesian nationality. Before I study in Faculty of Nursing, Chulalongkorn University, I was studied Bachelor of Nursing in Diponegoro University, Semarang, Indonesia. When I was in bachelor degree, I had a research about "Factors of Sex before Married of Female Students in Gondang Senior High School, Sragen, Central Java, Indonesia".

After I graduated from Bachelor of Nursing, I have working experience as a lecturer since 2009 until now in Bethesda Yakkum Health Science Institution, Special Region of Yogyakarta, Indonesia. During I am as a lecture, I took some responsibilities at Bethesda Yakkum Health Science Institution as Secretary of Bachelor of Nursing Program (2011-2012), coordinator of nursing skill's laboratory and clinical practice division (2011-2012), Secretary of Diploma of Nursing Program (2011).

Now I conduct a research to fulfill the requirement to get MNS in Faculty of Nursing, Chulalongkorn University, which is "Selected Factors Predicting Maternal Feeding Behaviors for Toddlers, Java Island, Indonesia". My contact person are email (ethic_lupi@yahoo.com) , and phone (+66880614116).