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A Grounded Theory Study of Social Process that Influence a Child being Overweight in Thailand

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**A GROUNDED THEORY STUDY OF SOCIAL PROCESSES THAT
INFLUENCE A CHILD BEING OVERWEIGHT IN THAILAND**

A Dissertation Presented

by

JUMPEE PRASITCHAI

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

September 2015

College of Nursing

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INFLUENCE A CHILD BEING OVERWEIGHT IN THAILAND**

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DEDICATION

To my parents

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There were many steps on the road to achieving my PhD. I am grateful to many people who were involved in my success. First of all I would like to thank the UMass Amherst College of Nursing for accepting me into their PhD program. I would also like to thank the Faculty of Medicine at Ramathibodi Hospital, Mahidol University for supporting me financially, and giving me the chance to study abroad. There were almost three years spent finishing course work for the program and passed through the comprehensive exam. With the process of passing the exam, I would like to thank Professor Karen Kalmakis and Professor Cynthia Jacelon for their valued help. There were two more years needed to complete my proposal and finish my dissertation. My research study was supported by funding from The Dissertation Research Grants at the Graduate School of UMass Amherst, and the Pediatric Nurses Association of Thailand.

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ABSTRACT

A GROUNDED THEORY STUDY OF SOCIAL PROCESSES THAT INFLUENCE A CHILD BEING OVERWEIGHT IN THAILAND

SEPTEMBER 2015

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The purpose of this research study is to develop a model of social processes that influence a child being overweight. This qualitative research study utilized Grounded Theory as a methodology to collect and analyze data. Postpositivism and Symbolic interactionism were used as a philosophical basis in this study. Research samples were parents/caretakers who have overweight children seven months to three years of age, and visited the Out Patient Department at Ramathibodi Hospital, Bangkok, Thailand. Data collection was from interviews, observations, document reviews, and journal writings. Data analysis followed the Glaser's GT approach, which included two steps, substantive and theoretical coding. The substantive coding was divided into two steps: open and selective coding. There were 13 caretakers and family members who took part in this research. There were 6 categories that emerged, related to each other as a process, that contributed to a child becoming overweight. Child- Feeding Practices (CFP) play a crucial role as a core category in the theoretical model, leading children to overfeeding and improper feeding based on age. As a result they were receiving more calories than their bodies needed. Two categories, Encouraged Feeding (EF) and Family Positive Perception (FPP), are related and initiate CFP. The children, who were overfed, were gradually increasing in weight (Weight gain, WG). Even though caretakers and family

members realize that their child was heavier/larger either by holding them, being informed by health care providers, or by innocent greetings from neighbors/friends (Observational/Interventional Triggers - OIT), they still had a very hard time changing their improper feeding habits. Various Controlled Feeding (CF) strategies have been tried, but these strategies were not intense or consistent enough to effect a change. The levels of the six categories varied case by case and reacted to each other at different levels. Future interventions/programs need to be conducted on younger children, and should focus on promoting children's healthy eating habits, rather than emphasizing weight loss. A policy of promoting healthy weight should be expanded to include school age children and toddlers, by the Thai Ministry of Public Health, to effectively prevent children from becoming overweight.

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CHAPTER 1

THE RESEARCH OBJECTIVE

Introduction

The prevalence of overweight children is increasing around the world (Novotny et al., 2015; Statistical annex: explanatory notes, 2004). The consequences of being overweight affect the incidence of physical and mental health problems in children. Overweight children are at higher risk of being diagnosed with type 2 diabetes mellitus, hypertension, hyperlipidemia, and developing adult-onset obesity (Pulgarón, 2013; Ruxton, 2004; Sundaram, Economos, & Coleman, 2014). Mental health problems are also increasing in children who have long-term problems with their excessive weight. They feel less confident, and experience more stress and depression if they cannot lose weight (Janssen, Craig, Boyce & Pickett, 2004; Pulgarón, 2013; Swallen, Reither, Haas & Meier, 2005).

Furthermore, the consequences of overweight children are also expensive and result in a large financial burden even during the first 5 years of primary school (Au, 2012). In the US, the health care costs related to children's problems with their weight was \$75 billion in 2003. The increased prevalence of overweight children will cost approximately \$117 billion per year due to sequellae in obese adults who had weight problems as children (Klauer & Aronne, 2002).

Researchers around the world have conducted studies to find the causes of being overweight. The results of these studies point out that various factors are influential in causing children to be overweight such as dietary patterns and child-feeding practices (overfeeding, unhealthy feeding, night feeding, big portions), lack of exercise, and less

energy expended in activities (playing games, watching TV, and using the Internet) (Ebbeling, Pawlak & Ludwig, 2002; Eisenmann, 2006; Mistry & Puthussery, 2015). Some researchers have found that genetics and environment also influence the prevalence of weight problems in children (Jablonka, 2004; Sridhar, 2014). Moreover, various programs in diverse countries have been created in attempts to conduct scientific studies aimed at controlling the number of overweight children in their respective countries. However, the results of effective childhood weight management programs in the long term have often been elusive (Collins, Warren, Neve, McCoy & Stokes, 2006).

Programs involving parents of overweight children are more likely to be successful and the perceptions of parents seem to play an important role in their children's weight management programs (Doolen, Alpert & Miller, 2009). In addition, the effects of parents' role models and family environment are also a part of children's behaviors (Hackie & Bowles 2007). However, few researchers have published papers focused on young children under five years old. If children's dietary patterns are shaped during this period, it will dramatically impact on their future eating habits. It is harder for children to change their lifestyle later in their lives if these habits are not implemented early in childhood (Esenay, Yigit & Erdogan, 2010).

The prevalence of overweight children in Thailand is rising (and has been on the rise for a decade) especially in big cities such as Bangkok, Chiang Mai, and Hat Yai. According to the latest survey of Thai children's health status, 16% of all children in Thailand are overweight or obese (The National Statistical Office (NSO) of Thailand, 2010). The pediatric outpatient department at Ramathibodi Hospital in Bangkok, Thailand is one example of a health care establishment that is concerned with children's

overweight status and the staff is actively working to help reduce the number of children who are overweight. Various programs in the hospital have been created to handle the cases resulting from weight problems, for example “healthy weight camp” and “healthy weight focus group.” Most programs have focused on school age children, but the outcomes were only successful for a short period of time.

These programs have shown that it is difficult for children to maintain their weight even though health care providers have implemented diverse strategies through these programs. The children’s weight seemed to be controlled during the programs, and then they tended to revert to higher weights after finishing the programs. Thus, understanding the social processes that influence a child being overweight plays a key role in the effectiveness of future weight management programs in early childhood.

Purpose of the Study

The purpose of this research is to study social processes that influence a child being overweight in Thailand.

Research Questions and Aims

The aim of this inquiry is to develop substantive theory that describes the process that influence a child being overweight. The research question is: “ What are the social processes that influence a child being overweight in Thailand?” The specific aims of this inquiry are the following.

1. To explore and describe perceptions of parents as expressed in the interview.
2. To explore perceptions of parents as described in their journal writings.
3. To examine action and interaction between parents and their overweight

child by researcher's observation.

4. To explore the recorded experience and patterns of behavior as noted in the health care record.

Grounded Theory (GT) qualitative research is utilized as a method in this study to explore social processes and generate a theory (Glaser, 1978). Social processes are a series of stages that are pervasive, full of variability, and change over time. Stages function as an integration or tying together of various sets of conditions. Stages have a time dimension from beginning to end; the length of time between two points may or may not be fixed. The transition is moving from one stage to another based on the contingencies of the occurrences. The occurrences and non-occurrences of a particular critical event will determine if a new stage is entered or the previous is sustained (Glaser, 1978). The outcome as a theory, describing the basic social processes that influence a child being overweight, will help the researcher develop interventions more appropriate to preventing children from becoming overweight at an early age.

Definition of Childhood Overweight

Childhood overweight is defined as a BMI greater than the 97th percentile adjusted by gender and age. Obesity is defined as greater than the 120th percentile by weight for height of the Thai children growth chart.

Methodology Overview

An underlying premise for this research is that the parents play a crucial role in increasing the effectiveness of weight management programs. Children, who are overweight at a younger age, tend to be overweight when they grow up (Gunnerson, 2009). However, a handful of studies were also conducted on parents who have children

ages less than three years (Esenay et al., 2010). In Thailand, little is known about what influences contribute to younger children being overweight. Therefore, a qualitative study would be most appropriate to pursue this inquiry. GT is chosen as a methodology for this inquiry to explore social processes and generate a theory.

Grounded theory is a research approach that results in the generation of middle range theory at a substantive or formal level (Glaser, 1978). Therefore, the goal of GT is to “generate a theory that accounts for a pattern of behavior which is relevant and problematic for those involved” (Glaser, 1978, p. 93). The explicit goal of GT is unique among qualitative methodologies because the result of GT does move beyond the description of the domain of study toward a theory that identifies and explains the concepts and the relationship among them. GT applied to this inquiry will follow Glaser’s GT approach. Symbolic interaction will also be involved in this inquiry as a theoretical framework to generate a theory. Symbolic interactionism is a social theory, which refers to the patterns of communication, interpretation and adjustment between individuals (Blumer, 1969).

Understanding how parents take care of their children, their perceptions, and other social processes enable the researcher to gain further insight into how these contribute to a child being overweight. GT and the theoretical framework of symbolic interaction will help the researcher generate the substantive theory, which can benefit future weight control programs and interventions for being overweight.

Significances

The results of this study as a substantial theory will contribute to scientific knowledge, direct further research, and guide health controlled weight interventions and

prevention programs.

Scientific Knowledge

Currently, little evidence-based knowledge about young childhood overweight and obesity has been accumulated through investigations. This study will reveal the actions and interactions or behavior patterns between parents and their overweight children. The study will also explore parents' perceptions and other social processes that are influential in young children being overweight. The behavior patterns and other social processes will generate a theory. The outcome may explain the phenomena of children being overweight and lead to enhance knowledge about childhood overweight and obesity.

Research Direction and Weight Control Guidelines

The developed theory will direct future researchers to address the rising prevalence of childhood overweight. Based on the social process emerging as an outcome and the understanding of the phenomena, the strategies for weight-control interventions will be developed. The effective design of interventions could be further applied to caring for overweight children. For example, the resulting theory might guide clinical strategies for the elimination of barrier factors and support factors contributing to successful weight-control programs. Moreover, this theory could contribute to development of an appropriate and effective health education program to prevent children from becoming overweight.

Summary

The prevalence of being overweight is increasing around the world (Novotny et al., 2015; World Health Organization, 2004). It leads to physical and mental problems

(Pulgarón, 2013; Ruxton, 2004; Swallen et al., 2005). Various researchers pointed out that multiple factors contribute to children becoming overweight (Ebbeling et al., 2002; Eisenmann, 2006; Sridhar, 2014). Diverse pilot interventions with various strategies have been tested. Most weight control programs have focused on school age students and have demonstrated little to no effect on the long-term goal (Collins et al., 2006). A handful of researchers have focused on young children less than three years old (Carnell et al., 2005; Campbell, Williams, Hampton & Wake, 2006; Baughum et al., 2006).

Dietary patterns and other behaviors are shaped at early ages less than three years. It is hard for children to change when they grow up and have their own lifestyles (Esenay et al., 2010). The goal of this study is to explore actions and interactions between parents and their children, parental perceptions, and other social processes that influence children becoming overweight. The research question is: “What are the social processes that influence a child being overweight?”

Grounded theory is a qualitative research method appropriate for this study to explore social processes that influence a child being overweight. Symbolic interaction is appropriate as a theoretical framework to guide this study.

The significance of the study is enhanced scientific knowledge in terms of understanding the phenomena of young children becoming overweight, understanding influences that are relevant to childhood overweight, and how parents care for their overweight children. Moreover, the theory developed as an outcome from this study could direct future studies to explore more effective strategies for weight management programs. The developed theory could also guide a health education program in a hospital or other health care agency to prevent children from becoming overweight.

CHAPTER 2

LITERATURE REVIEW

Introduction

The prevalence of overweight children is a widespread problem increasing in all groups, ethnicities, and educational levels throughout America, Europe, and many other countries, particularly, in big cities (Liu, Hironaka & Pihoker, 2004; Novotny et al., 2015). Various factors have been discovered that contribute to the problem of overweight children. Genetics, environmental factors, eating behaviors, lifestyle preferences, and cultural environments appear to have the greatest impact on the prevalence of overweight children (Hardy, Harrell & Bell, 2004; Sridhar, 2014).

Being overweight puts children at risk for morbidities such as hypertension, heart disease, diabetes, and developing adult-onset obesity (Patrick & Nicklas, 2005; Pulgarón, 2013; Ruxton, 2004; Sundaram et.al, 2014). Moreover, overweight children are more likely to have psychiatric symptoms and low self esteem (Levine, Ringham, Kalarchian & Wisniewski, 2001; Pulgarón, 2013).

Various interventions have been tried around the world to control the rising number of overweight children. The programs are often designed to involve schools, families, and health care services to increase the potential for success. This chapter will focus on a literature review of overweight status, causes of being overweight, the consequences, interventions designed to target overweight children, and the prevalence of childhood overweight and weight control programs in Thailand.

Overweight Status

Overweight and obese statuses in children are labels for ranges of weight being

greater than what is generally considered healthy for a given height. The terms also identify ranges of weight that have been shown to relate to certain diseases and other health problems (Centers for Disease Control and Prevention [CDC], 2012).

There are various ranges of weight cutoffs to identify overweight status. For example, Holm-Denoma et al. (2005) and Maynard, Michele, Blanck, and Serdula (2003) considered children overweight when their BMI (body mass index; a unit measure of kg/m^2) was equal to or over the 95th percentile for weight and height for gender (CDC, 2012). Myers and Vargas (2000) and Jackson, Strauss, Lee and Hunter (1990) used the 90th percentile for BMI per the CDC growth chart. Jeffery, Voss, Metalf, Alba and Wilkin (2005) considered children at the 91st to 98th percentile of the UK 1990 BMI reference curves as overweight. Baughcum, Chamberlin, Deeks, Powers and Whitaker (2006) used weight to height percentiles to designate overweight status.

In this inquiry, overweight status will be defined as children's BMI greater than 97th percentile of their weight for height (+2 S.D.) and obesity status will be defined as children's BMI greater than 120th percentile of their weight for height (+3 S.D.) based on the Thai Child Growth Chart (Nutrition Division, Department of Health, Ministry of Public Health, 1999).

Risk Factors for Being Overweight

A risk factor is “a factor causing a person or a group of people to be particular susceptible to an unwanted, unpleasant, or unhealthy event” (Washington, 2006, p.5) such as overweight and obesity. From the literature review, multiple risk factors seem to play pivotal roles in childhood overweight and obesity, such as genetics, family environment, rapid infant weight gain, socioeconomic status (SES), increase in energy

intake including the consumption of fatty foods, sweetened, and high calories products, and a decrease in energy expenditure. This section of the review is divided into three parts. The first part is composed of demographics (genetic, race/ethnicities, socioeconomic level), family environment, and rapid infant growth. The second part is focused on food consumption, and the last part focuses on energy expenditure.

Demographics

The following is the literature review of demographics (genetics, ethnicity, and SES) that are contributing to childhood obesity.

Genetics

Various researchers have indicated that genetics play an important role leading to overweight status. Behavioral genetic researchers have illustrated that genetic similarities among families are important contributors to the obese phenotype (Cecli, 2012; Haworth, Plomin, Carnell & Wardle, 2008;). Haworth et al. (2008) also indicated that 40% of independent genetic factors are influential in abdominal adiposity associated with BMI. Hur et al. (2008) also found that genetic factors contributed to the differences in variability of height, weight, and BMI between Caucasian and East Asian adolescents.

Recently, some researchers identified the leptin receptor gene, fat mass, and an obesity-associated protein also known as alpha-ketoglutarate-dependent dioxygenase located on chromosome 16, peroxisome proliferator-activated receptor and melanocortin 4 receptor as leading to extreme obesity operating through appetite aberrations resulting in overconsumption and difficulty inhibiting eating (Cecil, 2012; Demiralp & Nejat, 2011; Hinney et al., 2006). Another researcher, Wardle, Carnell, Haworth, and Plomin (2008), pointed out that an allele genotype is also associated with increased adiposity.

Ethnicity

Various researchers have indicated that ethnicity is also an influential factor in individuals struggling with overweight status. Since 1980, the prevalence of obesity in non-Hispanic black and Mexican American adolescents has increased and is a significant predictor of obesity in adulthood (Freedman et al., 2005; Gance-Cleveland et al, 2015). The Centers for Disease Control (2012) reported that the prevalence of obesity was 20% for Mexican American and 19% for non-Hispanic Black children when compared with 11% of non-Hispanic white children. Ogden, Flangel, Carroll and Johnson (2002) indicated that the prevalence of severe obesity (BMI >30 kg/m²) in female adolescents was 20% in non-Hispanic Blacks, 16% in Mexican Americans, and 10% in non-Hispanic whites.

Socioeconomic Status

Over the past 40 years, socioeconomic status (SES) has been recognized as related to obesity. Between 1988-1994 and 2005-2008, the prevalence of obesity increased in children at all levels of income and education except among girls in households where the head had at least a college degree (Ogden & National Center for Health Statistics, 2010). However, overall the majority of obese children live below 130% of the poverty level. The prevalence of overweight non-Hispanic white children and adolescents increased as income decreased. All boys and girls and non-Hispanic white and non-Hispanic Black girls in highly educated households are less likely to be obese (Ogden & National Center for Health Statistics, 2010).

In another study, Balistreri, (2009) found that income was strongly negatively associated with children's BMI in kindergarten through fifth grades among children of

Hispanic and White natives, but positively associated among Hispanic immigrant families. Nevertheless, parental education was not associated with children's BMI. A longitudinal study, in England and in Wales, with 2402 enrolled families illustrated that lower SES was related to a higher chance of rapid weight gain in the first three months of infancy (Wijlaars, John, Van Jaarsveld & Wardle, 2011).

Qualitative research by Small, Melnyk, Anderson-Gifford and Hampl (2009) revealed that Mexican parents and their children exhibited excessive overweight as a high risk factor for poor physical and mental health. Consistent with other parents in the U.S., they struggle to balance the time demands of their employment, parenting, and family responsibilities. They want their children to fit into the U.S. culture. They seek to provide items that their children would not have had in Mexico such as video games, computers, and fast food.

Sarlio-Lhteenkorva (2007) supported a premise that in Finland children who are born in households of higher socioeconomic status (SES) have a lower rate of obesity. McLaren (2007) also indicated that many countries' social inequalities in body mass appear early in life and continue into adulthood. Chapman's study in 2009, Midlife Development in the United States (MIDUS), demonstrated that lower childhood SES had effects on adult BMI in women. This might be because body shape and size begun at an earlier age in women was more likely to be carried into adulthood than in men.

Family Environment

Some investigators have found family environment and parenting behaviors to be causes of overweight status. Kuhnlein (2013) found that children growing up in families with poor dietary patterns and sedentary lifestyles such as watching television and

playing video games are more likely to become overweight or obese as young adults. Elder et al., (2010) indicated that the parents of overweight children tend to be less likely to provide instrumental support and fewer set aside time for children's activities. The 2011 Children's Food Environment State Indicator Report highlighted that a healthy food environment is a key strategy in reaching the public health goals of reducing childhood obesity (Department of Health and Human Services Centers for Disease Control and Prevention, 2011).

Rapid Infant Weight Gain

Rapid weight gain in infancy has been implicated in a number of studies as an important cause of children being overweight. Ten studies in Britain revealed that infants who grew more rapidly had an odds ratio of 1.17 to 5.70 for an increased risk of obesity (Baird, 2005). In a systematic review of 21 separate studies in Norway, Ong and Loos (2006) concluded that a significant positive association exists between rapid infancy weight gain, up to age two years, and a later risk of obesity.

These investigators suggested that nutritional factors could moderate the translation of infancy rapid weight gain to visceral fat and insulin resistance (Ong & Loos, 2006). Stettler, Zemel, Kumanyika and Stallings (2002) supported the premise that babies' rapid weight gain during first four months is associated with an increased risk of being overweight at age seven, independent of birth weight and weight attained at age one year. Gunnerson (2009) studied 559 children by measuring weight and body length at birth, 6 months and 3 years. He found that the increased weight gain throughout early infancy affected later obesity. Andersen (2012) also pointed out that infant weight and weight gain the first month of life are associated with obesity in childhood.

From the literature review above, it is clear that demographics (genetic, ethnicity, SES), family environment, and rapid infant weight gain are contributing to children being overweight. This review is useful to health care providers in terms of creating an intervention for weight management or creating programs to prevent the vulnerable children, for example children who have low SES in developed countries, those with rapid weight gain, or those who may have overweight parents, from being overweight.

Food Consumption

From the review of literature, increased food consumption or child-feeding practice seems to be a major cause of being overweight in childhood. High consumption of items such as fast food, sweetened drinks, large portion size, and caloric-dense food, and decreased consumption of fruit and vegetables are associated with children being overweight around the globe (Amin, Al-Sultan & Ali, 2008; Dubois, Farmer, Girard & Peterson, 2007; French, Lin & Guthrie, 2003; Guthrie & Morton, 2000; Hanley et al., 2000; Nielsen & Popkin, 2004; Rampersaud, Bailey & Kauwell, 2003).

Lioret, Volatier, Lafay, Touvier and Maire (2009) supported the premise that at an early age, eating patterns such as larger portions of energy-dense and nutrient-poor foods lead to overweight at a later age. Amin et al. (2008) also revealed that less healthy dietary habits and poor food choices lead to prevalence of childhood obesity, in particular, in developed countries. Hanley et al. (2000) indicated that volume of food intake, composition, and quality of diet play crucial roles in children being overweight including the low consumption of fruits, greens, and milk, and high consumption of snacks, sweets, and soft drinks, as well as not eating breakfast. Dubois et al. (2007) also showed that regular sugar-sweetened beverage consumption between meals might put

some young children at risk for being overweight. Carbonated soft drinks contain little or no nutritional value and contain only sugar (Guthrie & Morton, 2000). A survey conducted by the US Department of Agriculture revealed dramatic increases in soft drink consumption among children during past decades (French et al., 2003; Nielsen & Popkin, 2004; Rampersaud et al., 2003), in particular, among children in the United States.

Krebs-Smith (2001) revealed that an increase in soft drink consumption coincide with increased prevalence of overweight and obese status in children. In one prospective study of children ages 11 to 12 years, investigators found a 60% increased risk for being overweight for each serving of sugar-sweetened beverage consumed daily (Ludwig, Peterson & Gortmaker, 2001). James, Thomas, Cavan and Kerr (2004) in a cross-sectional study of 10-year-old children showed that consumption of sweetened beverages increased by 33% the risk of becoming overweight. Furthermore, investigators for the National Health and Nutrition Examination Survey conducted from 1988 to 1994 and other studies found the association between soft drink consumption and overweight in children ages two to five years (Forshee, Anderson, & Storey, 2004; Newby et al., 2004).

Various researchers have supported the idea that large portion sizes, sweetened foods, low fiber fruit & vegetable consumption, and soda play an important role in overweight children. If overweight children could modify their eating habits or if parents could instill a healthier dietary pattern at an early age, the prevalence of overweight children could be minimized.

Energy Expenditure

The last factor leading to overweight in children is decreased energy expenditure including excessive screen time such as television TV viewing, computer and video

games, decreased physical and sport activities for non-athletes, and excessive homework. Sedentary lifestyles have increased; in particular, juvenile obesity in various industrialized countries (Chinn, 2001). A survey of epidemiologic and descriptive large-sample studies revealed that TV viewing was the most prevalent sedentary behavior among youth. Most children and adolescents watch TV an average of 2.5 to 3 hours daily (WHO, 2005). However, approximately one third of adolescents watch TV of more than four hours daily, which was twice the recommendation of the American Academy of Pediatrics. The children who are under two years should have no screen time, and children who are older than two year old should limit screen time to one two hours a day (Schmidt, Rich, Rifas-Shiman, Oken & Tavernas, 2009).

Davison, Marshall and Birch (2006) indicated that children who engaged in these activities tended to have a higher BMI and percentage of body fat. Investigators in the British Heart Foundation Study (2000) supported the premise that being overweight in childhood was partly from decreases in habitual physical activity and increases in sedentary activities. Furthermore, Cecil-Karb, (2009) showed that the neighborhood safety perceptions are associated with children being overweight. These researchers also noted that outdoors activity might also be impeded in warmer climates.

In the modern world, sedentary lifestyles tend to be increasing dramatically. Watching video screens (TV, video games, smartphone, etc.) is more attractive than physical activities to many children. Instilling patterns of outdoor or indoor physical activity in younger children would be another way to decrease the prevalence of overweight children.

The Consequences of Being Overweight in Children

Consequences of being overweight create adverse physical and mental health problems. These consequences also affect quality of life for overweight children both in the short term and the long run. Some health problems persist into adulthood such as diabetes, hypertension, and heart disease. A large amount of money is necessary for societies to deal with such health problems. The following is an overview of consequences of being overweight in childhood including physical (short and long terms) and psychological consequences.

Short-Term Physical Consequences

Orthopedic

Being overweight contributes to the occurrence of orthopedic abnormalities. Taylor et al., (2006) indicated that overweight children and adolescents tend to have an increased prevalence of fractures, musculoskeletal discomfort, impaired mobility, and lower extremity malalignment compared with the non-overweight group. The occurrence of orthopedic abnormalities adversely affects the likelihood that children will engage in physical activities and contributes to the accumulation of excess weight. Goulding, Jones, Taylor, Piggot and Taylor (2003) also supported that overweight adolescents have poorer balance than those of healthy weight.

Pulmonary

Pulmonary problems are another occurrence resulting from being overweight. Arens and Muzumdar (2010) indicated that the prevalence of Obstructive Sleep Apnea Syndrome is increasing in obese children. This association may result from the following: adenotonsillar hypertrophy due to increased somatic growth, increased critical

airway closing pressure, altered chest wall mechanics, and abnormalities of ventilatory control. Verhulst et al. (2007) also revealed that Sleep Disordered Breathing is very common in overweight and obese children. Overweight children also show an increased rate of bronchial hyperactivity leading to higher rates of reactive airway disease and the prevalence of asthma (Mai, Xiao, Malin & Leijon, 2004; Tai, Volkmer & Burton, 2009; Davis, Milet, Etherton & Kreutzer, 2007; Gilliland et al., 2003).

Gastroenterological

The occurrence of constipation, gastroesophageal reflux, irritable bowel syndrome, encopresis, and functional abdominal pain is more prevalent in obese patients (Teitelbaum, Sinha, Micale, Yeung & Jaeger, 2009). Alanine Aminotransferase (ALT) and Nonalcoholic Fatty Liver Disease (NAFLD) tend to be increased in obese children. The enzyme ALT is elevated and consequently has been used as a marker for NAFLD. This liver enzyme is associated with metabolic syndrome and type II diabetes mellitus (Louthan, Theriot, Zimmerman, Stutts & McClain, 2005; Schwimmer, McGreal, Deutsch, Finegold & Lavine, 2005).

Endocrine

Overweight children show a higher prevalence of metabolic abnormalities and insulin resistance (Verhulst et al., 2007). Diverse studies have reported that overweight and obesity is positively correlated with total cholesterol, and low-density lipoprotein. These studies have also shown that overweight in children is negatively correlated with glucose utilization, which leads to increasing occurrence of non-insulin dependent diabetes mellitus (type 2 diabetes) (Steinberger et al., 2001; Weiss et al., 2004; Panagopoulou et al., 2008).

Cardiovascular Disease

Increased cholesterol, high-density lipoprotein (HDL) cholesterol ratio, and systolic blood pressure occur more often among those who are overweight. Therefore, excess weight in adolescence that is sustained into adulthood is strongly associated with multiple cardiovascular risks and hypertension (Aguilar, Ostro, De Luca & Suarez, 2010; McGavock, Torrance, Ashlee McGuire, Wozny & Lewanczuk, 2007; Ribeiro, 2004). A survey from a school-based setting between 2004 and 2006 indicated that the prevalence of high blood pressure was significantly higher and fitness levels were lower in obese children (McGavock et al., 2007).

Long-Term Physical Consequences

Not only does overweight tend to persist from childhood into adulthood, but it is also associated with long-term consequences such as persistence of obesity, and adult morbidity leading to death. Even though the evidence for this phenomenon is not strongly associated, the relation between risk of morbidity in adulthood and having been overweight in childhood tends to be increasing because, as the prevalence of obesity increases in the United States, the concern about the association of body weight with excess mortality has also increased (Flegal, Graubard, Williamson & Gail, 2005).

Guo, Wu, Chumlea and Roche (2002) indicated that a child or adolescent with a high BMI percentile on the CDC BMI-for-age growth charts has a high risk of being overweight or obese at 35 years of age, and this risk increases with age. However, Flegal et al. (2005) illustrated the premise that estimating deaths attributable to overweight and obesity in the US population raises complex methodological issues and other relative risks should be adjusted such as age and smoking. Preston (2005) revealed that the rising

prevalence and severity of obesity is already reducing life expectancy among the U.S. population because the health related behaviors (i.e. higher caloric intake, smoking) in obesity have worsened.

Psychological Consequences

Psychological consequences are another adverse effect in overweight children. Goodman and Whitaker (2002) enrolled 9374 adolescents in grades 7 through 12 in a longitudinal study. The results illustrated that persistence of obesity during adolescence increases the risk of depression. Strauss and Pollack (2003) also revealed that overweight adolescents received significantly fewer friendship nominations from others than were received by normal-weight adolescents. Gibson et al. (2008) concluded that overweight/obese children show multiple significant psychological problems such as decreased global self-worth, clustered with body image and eating disorder symptoms.

Another study performed on a sample of 4703 adolescents in Sweden (Sj[^]berg, Nilsson & Leppert, 2005) revealed that obesity was significantly related to depression. Experiences of shame, parental separation, and parental employment explained this association. Sjoberg et al. (2005) suggests that obese children encountered difficulties, experienced activity limitations, reduced opportunities for school/community participation, increased use of health services, and may have reduced quality of life.

Physical and psychological problems create adverse effects in overweight children such as orthopedic, endocrine, cardiovascular diseases, pulmonary, and gastroenterological problems. The consequences of these health problems are an increase in health care costs and an adverse affect on overweight children's quality of life. More heath care resources will be needed if the prevalence of overweight children continues to

increase.

Interventions for Weight Management

Various weight management programs have been created aimed at decreasing prevalence of overweight children. Most programs focus on reducing calories associated with consumption, increasing physical activity, and attempt to help participants meet their goals in the long run. The following is a review of the weight-control programs conducted to address childhood overweight from 2008-2013, which involved health care providers, family members, schools, and communities.

Health Care Provider Involvement

There are two important roles of health care providers in promoting better health in overweight children. The first role is that of researchers who conduct the interventions for prevention and reduction of excessive weight in children. The other role is involvement in a study as a counselor or a health educator. There are two main areas of medical community interventions. The first area is a special clinic for severely overweight children, which includes an intense program and sometimes involves use of selected medications. The other area is primary care focusing on prevention and screening for risk of obesity. The following four studies are randomized control trial interventions at the primary care level.

Two of the four studies were conducted in the US, another was conducted in Australia, and the final one in Iran. The status of being overweight was cut off at the 85th-95th percentile of BMI. The participants were ages 9-17 years. The interventions were conducted from three months to four months. Follow up assessment varied from two months to 24 months. One study involved family participation in the program. All

programs succeeded in meeting their short term goal (reduction of children's BMI); however, for the long term assessment, the results were not significantly different from those of the control group. A variety of strategies and techniques were applied in these studies such as promoting physical activities, modifying diets, motivating healthy behaviors, and taking medicine.

In one study, investigators used the Internet as a methodology to promote cognitive behaviors including positive body image, basic education about portion size, recommended daily activity, and as a guide for behavior modification (Doyle et al., 2008) Kirk et al. (2012) tried to use a carbohydrates modified diet and a standard portion-control diet including nutritional exercise education, and family based interactive menus. In another study, Rezvanian, Hashemipour, Kelishdi, Tavakoli and Poursafa (2010) conducted the intervention with drug use in four groups: metformin, fluoxetine, a combination of the two, and placebo. After 12-weeks, overall (91.1%) children's body mass index decreased significantly in all groups except the placebo. In the 24-week follow-up, these indexes were lower than the baseline group that had received a combination therapy of metformin and fluoxetine.

Finally, Jacobson(2011) studied the feasibility, acceptability, and preliminary efficacy of a theory-based Healthy Choices Intervention (HCI) Program involving parents in a primary care setting. The results showed that children and parents recommended the HCI as useful and informative. The HCI has positive effects on children including BMI percentile, increased knowledge, beliefs, choices and behaviors and self-control. The HCI had positive effects for parents in terms of increased knowledge, beliefs, behaviors, and decreased anxiety.

Family Involvement

Family is the most common variable included in diverse weight management programs. Family plays a crucial role in influencing children's eating behaviors and children's activities. The following are six interventions involved family as a major variable in the program. Three studies were conducted in the US, two studies were conducted in Australia and one study was conducted in Turkey. The participants were 4-14 years of age. Overweight status in these studies was cut off at the 85-97th percentile of children's BMI, and one study recruited children with a BMI greater than the 75th percentile. These programs offered a variety of techniques and strategies and were conducted for a period of three to six months with participants followed for three months to twelve months. Most programs focused on changing behaviors such as reducing TV viewing, motivating choosing healthy food, promoting physical activity, and training for life skills.

In one study, Epstein et al. (2008) applied educational and physical activity sessions held twice weekly in sports centers and schools. The program focused on reducing television viewing and computer use. Saelens (2013) offered the strategy of joining motivational and autonomy-enhancing intervention and family-based intervention. In another study, Golley (2007) focused on parenting skills' training plus intensive lifestyle education and parenting-skill training alone (Sacher et al., 2010).

West, Sanders, Cleghom and Davies (2010), offered the program of the Group Lifestyle Triple P, which is a modification of Level 4 Group Triple P tailored to the concerns of parents of overweight and obese children. The program focused on increasing parents' skills and confidence in managing children's weight-related behavior.

In the final program, Garipagaoglu, Sahip, Darendliler, Akdikmen and Kopus-Necdet Sut (2009) applied the strategy of increased consumption of vegetables and fruits and reduced consumption of carbonated drinks and fruit juice in both groups.

Two studies demonstrated achievement of the short- term goal to decrease children's BMI (Epstein et al., 2008; Saelens, Lozano & Scholz, 2013) while the other four studies showed continuous achievement to the long- term goal (Golley, Magearey, Baur, Steinbeck & Daniel 2007; Sacher et al., 2010; West et al., 2010; Garipagaoglu et al., 2009)

School Involvement

Schools are commonly involved in various weight control programs for school age children. Children spend much time in schools with education, eating, and activities. Therefore, the school plays an important role in promoting a healthy lifestyle for children. The following are five interventions that involved schools. Three studies were conducted in the US, one study was conducted in Spain, and another study in Germany. Three interventions were introduced in primary schools and two studies focused on elementary schools.

The target of all programs was to reduce the number of overweight/obese children in school. Various strategies were involved in the interventions such as providing education, encouraging healthy eating, promoting exercise, and changing the environment. For example, Llargues et al. (2011) used the "Investigation Vision, Action and Change " program to promote healthy eating habits and physical activities. Johnston et al. (2013) conducted an intervention using a school-based pediatric prevention program facilitated by health professionals. Health professionals were involved in the program to

help teachers provide the curriculum, comparing those to a self-help program.

Muckelbauer (2009) studied the potential effect of a combined educational and environmental intervention for sustained modifications in the beverage consumption habits of children. In another program, Foster (2008) applied a multi component school based intervention. The components were self- assessment, nutrition education, nutritional policy, social marketing, and parent outreach. The last program, “The Nutrition Friendly Schools and Communities (NFSC)” (Prelip, Slusser, Lange, Vecchiaelli & Neumann, 2010) was designed to engage the school community to prevent overweight in students through a multi-level plan to facilitate coordinated changes in the school environment: health education, physical education, health services, and family community involvement. All above programs were followed up for two to three years. All programs were successful in terms of reducing the number of overweight children in the participating schools and encouraging healthy habits.

Community Involvement

Only one study involved the community in a major role for the program. Loozit® is a community-based clinical program that was initiated in Australia for overweight and lower grade obesity in adolescents ages 13-16 years. The program involves healthy eating and physical activity guidelines through promoting self-esteem, healthy weight, healthy eating, and physical activities. The program has potential for effectiveness in addressing the health of large numbers of Australians. Shrewsbury et al. (2009) applied the Loozit to interventions for three groups: Loozit; Loozit+group program (G); and Loozit+ (G)+ additional therapeutic contact (ATC). The additional therapeutic contact include a combination of telephone coaching, mobile phone short

message service, and electronic mail.

The first phase was followed up after seven weeks and phase two was followed up at 2, 12, and 24 months. The finding demonstrated that 130 out of 151 adolescents completed the two month program, there was a statistically significant ($P < 0.01$) reduction in mean BMI z-score, total cholesterol (0.14 mmol/L) and low-density lipoprotein cholesterol (0.12 mmol/L). The results of this RCT determined that ACT could improve treatment outcomes in overweight and obese adolescents participating in the Loozit group program.

Nguyen et al. (2012) conducted randomized controlled trial weight-control program in adolescent by utilizing Loozit. The two phases (2 months and 12 months) were evaluated. The findings demonstrated that the program produced a significant but modest reduction in body mass index and improved psychosocial outcomes at 12 months. The supplementary telephone and electronic contact provided were not additional benefit at 12 months.

Weight management programs are contributing to many areas aimed at promoting a healthier lifestyles and preventing adverse consequences for overweight children. These programs applied diverse strategies involving a variety of health care providers, family, schools, and communities. However, most programs are still pilot programs and have not expanded to larger areas. These programs have shown to be effective only in the short term, but sustained and expanded programs are needed for further study. One program, Loozit, seems to be used in a wide area in Australia, but follow-up has not been carried out for more than two years.

The Prevalence of Childhood Overweight in Thailand

The rate of childhood obesity is increased in many areas across North America, Europe, parts of the Western Pacific, and Australia. The World Health Organization (2005) estimated that in 2010, the percentage of overweight/obese school age children in Americas is 46%, Middle East and North Africa 42%, Europe 38%, West Pacific 27%, South East Asia 23%, and Africa 5% (Lanigan, 2011). The prevalence of overweight/obese children has also grown rapidly in developing countries such as Thailand, Vietnam, Indonesia and China, particularly in urban areas, in the last decade. It has been estimated that at the end of 2010, 43 million preschool age children were overweight or obese and the trend has been creeping up from 6.7% compared to 4.2 % in 1990 globally (Louthan et al., 2005). The World Health Organization (2005) has announced that the childhood obesity is one of the most serious public health problems in the 21st century.

In Thailand, in 2003, the Ministry of Public Health (MOPH), Division of Health (2005) reported the prevalence rate for overweight children, across Thailand, to be 13.4%. A 2001 cross-sectional survey by Wansorn, Tontisirin and Marui found that “The prevalence of overweight ($p_{90} \pm 97$) was 16.1% in urban group, and 8.7% in rural group. Moreover the prevalence of childhood obesity ($>p_{97}$) was over 22% in the urban group, which was three times that in the rural group” (p. 390).

Recently, Mo-suwan (2005) noted the prevalence rate of overweight preschoolers has risen rapidly, and if no definitive actions are taken, one out of every five preschoolers will be overweight within the next decade. This situation has gained the attention of the MOPH, which has set a goal for the prevalence level of obesity at 10.0 % or less, for

school age children, a decrease of 0.5% per year compared to the previous prevalence rate (Sinawat, 2008).

Several investigators have based studies on the premise that high SES status, residence in metropolitan cities, lack of awareness and false beliefs about nutrition, marketing by transnational food companies, increasing academic stress, and poor facilities for physical activities are causes of the prevalence of being overweight in developing countries (Gupta, Goel, Shah, & Misra, 2012). Moreover, the family history of overweight is also a factor in childhood overweight (Baur, 2012).

Weight Management Programs in Thailand

All weight management programs in Thailand have not been reported in academic publishing accessible through a data based system. Various weight management programs continue to be launched for overweight children in many areas, in particular in the big cities. The following are six weight-control programs in Thailand reviewed from 2008-2013. Five programs were conducted in schools (three in primary schools, two in secondary school. One study was conducted at a health care service with preschool children. Four of the studies were conducted in urban areas (Bangkok and Chiang Mai provinces) and two studies were conducted in rural areas (Saraburi and Chonburi provinces).

Two studies used participatory enrollment as a methodology, and four studies were designed as case-control trials. Most strategies focused on enhancing knowledge, promoting healthy consumption, and encouraging activities. The programs were followed up in a range of time periods from three to eight months. The following are the weight management programs categorized by various stakeholder involvements and by

school based involvement.

Multi- Stakeholders Involvement

There are four weight management programs that involve various stakeholders. Sirikulchayanonta, Pavadhgul, Chongsuwat & Klaewkia (2011), for example, conducted participatory action research by involving students, teachers, and parents as the stakeholders. The program focused on dietary intake and exercise. Banchonhattakit (2009) involved teachers, parents, and community members as a school network in the program. The intervention was focused on improving students' behavior in terms of knowledge, attitudes, and intention to promote healthy food consumption. In another study, Somsamai (2008) also conducted participatory action research by involving family, school, and public health as a network and applying Ecological System Theory (EST) in the program.

For the last program, Chotibang (2009) conducted participatory action research by using empowerment strategies involving various stakeholders: children, parents, teachers, school administrators, cafeteria staff members, vendors, and expert counselor. The collaborative program focused on promoting healthy eating and physical activity.

School Involvement

Two studies were conducted based on school involvement. One study was conducted at a primary school promoting physical activities by perceiving self-efficacy (PSE), physical activity (PA) and physical fitness (PF) based on Pender's health promotion and self- efficacy (Teerarungsikul, 2008). In another pilot study, In-Iw (2012) conducted the intervention in a secondary school. The program emphasized nutritional education and healthy attitudes.

Two interventions illustrated significantly decreased BMIs (Sirikulchayanonta et al., 2011; In-Iw, Saetae, & Manaboriboon, 2012) while the rest reported healthier habits in overweight children, a reduced number of overweight children, and increased effectiveness of networks, but no statistical significance (Banchonhattakit, 2009; Somsamai, 2008; Chotibang, 2009; Teerarungsikul, 2008). Even though having multi-stakeholders plays an important role in most weight management programs, and Participatory Action Research was applied as a common methodology to the studies, just one study (children's BMI reduction) has significant outcomes (Sirikulchayanonta et al., 2011).

Weight management programs in Thailand mostly focused on school age children, and involved multiple stakeholders. The programs emphasized enhanced knowledge, promoting healthy diets, and encouraging exercise. Even though the outcomes did not show significant decrease in children's weight gain, overweight children have better knowledge and healthier habits.

Discussion

From the literature review, it is apparent that various factors are influential in leading to children becoming overweight. Demographic factors can help in identifying the children who are at risk. For example, children who have overweight parents, who are African American, who have low SES in developed countries and high SES in developing countries, and who exhibit rapid infant weight gain, are more likely to be overweight than children who do not exhibit these characteristics.

Moreover, these demographic data could also guide health care providers in choosing who, where, and when to screen and in using interventions more appropriately

to prevent children from being overweight. In other words, the children who are at highest risk for being overweight should be given more attention and offered more focused strategies to prevent them from becoming overweight in the future. However, in the intervention review, most programs did not focus on these vulnerable groups in particular to receive the intervention. Instead, the programs emphasized only strategies such as controlling consumption, motivating participation in more activities, and reducing TV viewing than focusing on target groups of participants.

In addition, in genetic studies recently, the investigators have tried to study factors that are influential in overweight status such as leptin receptor gene, fat mass, peroxisome proliferator activated receptor and melanocortin 4 receptor. These genetic discoveries may benefit future programs to increase the effectiveness of weight control management strategies.

The limitation of the literature review of the causes of childhood overweight is that most data were collected in US and Europe, rather than in other areas. Therefore, the studies do not yield a good representation of data reflecting the general population around the world. If the studies were conducted in different part of the world, the results might be different.

The second part of this review, consequences of being overweight, underscores the strong evidence illustrating the adverse effects of being overweight on children's health in physical and psychological consequences. The review also illustrates that the trends of diseases in overweight children have not changed much in 2013 compared to the previous studies of the consequences of childhood overweight and obesity (Lichtenstein, et al. 2006). These studies also play an important role guiding health care

professionals to screen and institute early investigation for these diseases in high risk children who are overweight.

The third part of the literature review examined interventions including those focused on involvement of health care providers, families, schools and communities. The health care providers take responsibility for a major part of conducting research and providing health education for preventing and reducing the number of overweight children. Family plays an important role in various weight management programs, in particular, with the young overweight children. This is because the family is closest and most influential in children's lives and behaviors. Family-based programs also tend to be more successful than other programs. Schools and community-based programs are more focused on decreasing the number of overweight children and providing healthy environments to school-aged children.

Most programs focus on behavior control as a major technique, for example dietary control, encouraging activities, decreasing TV/game viewing, and promoting self motivation. Only one intervention involved medication. In addition, nowadays program strategies tend to involve new technology such as email, texting, websites, and on-line chatting, rather than traditional group meetings to increase the effectiveness of the programs.

The effectiveness among these programs is hard to determine because they have been conducted with various ages, different groups of children, in different contexts, using different techniques, a variety of evaluations, and different times of follow up (two months to three years). The researchers tend to design the programs to fit the local areas and cultures. Therefore, the programs have not yet expanded to wider areas.

Furthermore, the interventions were conducted to last from three months to six months and most programs reported success over a short time frame. It appears from the literature that it was difficult to maintain the longer term goals of any of the programs over a significant period of time. The review also illustrates that no program had a follow-up phase of more than three years. Therefore, a long term study is needed to examine maintenance of weight control in the long run and application of policies to a wider geographic area.

Even though the literature review indicated that children who rapidly gain weight in the infant period are more likely to be overweight in the future, few researchers have paid attention to infancy as a time for early intervention. Moreover, no study focused on young children under four years of age even though that time is very important to children's dietary habits. Young children's behavior is contributed to by parents, who play a pivotal role in modeling dietary habits and acting as good role models, influencing their children's future behaviors. Even though most weight management programs focus on enhancing healthy eating and encouraging caloric expenditure through exercise, it is hard for the participants to change their lifestyle later in their life if these healthy habits do not develop in early childhood (Esenay et al., 2010).

The aim of this inquiry is to develop substantive theory that describes the processes that influence a child being overweight. GT is a best fit as a methodology to generate a theory that accounts for a pattern of behavior, action and interaction, as social processes, which is relevant and problematic for those involved (Glaser, 1978, p. 93). The outcome as a theory will help the researcher develop interventions more appropriate to preventing children from becoming overweight at an early age.

Summary

Being overweight in childhood is the one of the most significant health problems in many countries, in particular, in developed countries and urban areas of developing countries. Current researchers have indicated that many factors influence the phenomenon, but becoming overweight in childhood also involves various factors such as genetics, environment, increased food consumption, and decreased energy expenditure. Children who have parents or relatives who are overweight tend to have higher weight gain than those whose parents and relatives are of normal weight. Children who are low SES tend to be overweight more often than those who are middle class or high SES in developed countries. Parents tend to raise their children in the same environments in which they grew up, leading their children to gain weight in a similar pattern. These parents are more likely to provide fast food, big portions, foods high in calories, sweetened foods and caloric beverages.

Children who have more gain weight in the first six months are more likely to gain more weight at later ages. A lifestyle that is overwhelmingly based on fast foods, junk food, and little energy expenditure also promotes more weight gain. Children today in the U.S. as well as many other countries have fewer outdoor activities and tend to be spend more time with activities such as video games and TV. These lifestyles increase the prevalence of childhood overweight and obesity.

The consequences of being overweight affect children's physical health in the short and long terms. Short-term physical consequences are orthopedic, pulmonary, gastroenterological, endocrine, and cardiovascular. The long-term consequences include persistence of being overweight through adulthood, decreased adult mobility and

increased adult mortality. Not only are physical problems related to childhood overweight, but also psychological problems such as depression and low self-esteem exist in overweight children. These consequences of being overweight affect children's quality of life and are costly to individuals and society.

Health care providers, schools, and families play crucial roles in encouraging weight management programs in order to reduce the prevalence of being overweight in children. These programs are mainly focused on reducing high caloric food consumption, promoting healthy foods, and encouraging energy expenditure. The programs that involve diverse variables such as family, school, and health care professionals tend to be more successful in reducing BMI. However, more studies, which focus on younger ages, are needed to pursue a goal of controlling effectively the prevalence of childhood obesity in the long run.

Theoretical Framework

Symbolic interaction plays a crucial role to guide this inquiry as a theoretical framework. The term "symbolic interactionism" is used to explain a relative approach to the study of human life and human conduct (Blumer, 1969). Blumer (1969) mentioned the three assumptions of symbolic interactionism: (a) people act toward things based on the meaning that they have for them; (b) meanings result from action and interaction from one to society; and (c) an interactive process comes from interpreted or modified people's meanings that people have used to make sense of and manage their social worlds.

Reality in symbolic interaction is social, developed interaction with others. Symbolic interactionism believe physical reality exist by an individual's social definitions. Symbolic interactionism also believes that people do not interact to the

reality directly, but rather they respond by social understanding of reality. In other words, people communicate and interact with each other based on how they interpret reality (Blumer, 1969).

This inquiry will uncover parents' perception toward overweight children. It also will lead to discovery of what having an overweight child means to parents. It will explore other social processes that influence parental perceptions, and how they directly relate to a child being overweight.

In this inquiry Grounded theory (GT) plays a crucial role as a methodology to generate a theory. The detail of GT including data collection and analysis is provided in the Research Design section of Chapter 3. Symbolic interactionism is also applied as a theoretical framework to guide this study to explore social processes that influence a child being overweight.

CHAPTER 3

METHODS

Introduction

The prevalence of overweight children is increasing around the world (World Health Organization, 2004). Although many researchers have indicated that younger overweight children tend to be overweight when they grow up (Baird, 2005; Ong & Loos, 2006; Stetter et al., 2002; Gunnerson, 2009; Anderson, 2012), only a few researchers have focused on young children under five years old (Carnell et al., 2005; Campbell et al., 2006; Baughum et al., 2006). Behavior is shaped early in child development. Parents play a pivotal role in shaping a child's dietary patterns and they also are role models who affect children's behavior. Furthermore, it is hard for children to change their lifestyles later in life if these habits were not implemented early in childhood (Esenay et al., 2010).

Utilization of grounded theory (GT) as a methodology has generated a theory exploring actions and interactions between parents and their overweight children, parental perceptions, and other social processes that influence a child being overweight. The purpose of this chapter is to elaborate on the methodology for a GT approach, describe research design, data collection, data analysis, trustworthiness of the data, and protection of human subjects. The timeline and budget are also outlined in the last part of this chapter.

Research Design

Methodology: Grounded Theory

Strategies and data analysis for GT in this inquiry tend to align with the original work of Glaser and Strauss (1967) and the subsequent work of Glaser (1967,1992). This

method would also be useful for discovering realities holistically, to capture the meanings implicit in human activity (Charmaz, 2006). Even though Glaser has not mentioned symbolic interactionism applied to GT, the researcher, nevertheless, believes that symbolic interactionism plays a crucial role in GT as a theoretical framework. This framework has guided and generated a theory while focusing on the patterns of communication, interpretations, and adjustments between individuals.

In keeping with Glaser (1978)'s GT approach, researchers should enter into an area of interest with no research question. The literature review is required solely for enhancing theoretical sensitivity. Researchers take a neutral stance to let the data emerge naturally. Various techniques should be used to collect data such as interviews, observations, and document review. Few neutral open-ended questions are required to elicit initial data and the deeper data will emerge from participants' expanding questions. Glaser (1978) adhered to two methodological steps for coding: substantive and theoretical. Substantive coding consists of two sub-phases, open and selective coding. Theoretical sampling guides a researcher in data collection, including where to find data to develop the theory as it emerges (Glaser 1992).

Constant comparative analysis and coding are used as the bases for data analysis. There are four stages of constant comparative analysis: (a) comparing among incidents to create each category; (b) integrating categories and their properties; (c) delimiting the theory; and (d) writing the theory (Glaser & Strauss, 1967). Memo sorting plays the important role in generating a theory.

In this inquiry, the broader research question, before entering to the setting, is "What are social processes that influence a child being overweight?" Various techniques

such as observation, interviews, field note writing, journal writing, and document review are used to collect and analyze data to generate a theory. A few open-ended questions were used to explore initial impressions and question guides were used if participants hesitate to answer broader questions (Lofland, 1995). The initial data was coded to generate categories; concurrently, theoretical sampling was applied to guide further data collection to elicit the broadest possible range of information to generate a theory. Constant comparative analysis was used as a technique in coding and analyzing data. These are described below.

Setting

The setting for this inquiry is a Pediatric Out Patient Department (POPD) and participants' homes located in Bangkok, Thailand. POPD of Ramathibodi Hospital is a tertiary health care service providing patients ages less than 15 years old with walk-in and follow-up health care clinics. The walk-in clinics provide patients with services for acute illness care such as infections, allergies, and skin problems. Follow-up clinics provide patients with services for chronic illness care such as hematology, cardiology, neurology, allergy, and nutrition.

There are 20 examining rooms for these health care services, and two meeting rooms for staff's activities such as meetings, conferences, and teaching. The meeting rooms can also be used for interviewing study participants. There are approximately 50 walk-in cases/day and 100 follow-up cases/day. There are 22 nursing staff members and 10 physicians running the service daily from Monday to Friday.

Another setting is in participants' homes. All participants' homes are located around Bangkok and its surroundings, with a variety of socioeconomic contexts

depending upon which parts of the city they live in. Some participants lived in condominiums or houses in the center of Bangkok, while others lived in houses just outside of the inner city limits.

Access

Institutional Review Board approval was obtained from the University of Massachusetts, Amherst in the US and Ramathibodi Hospital, in Thailand. The researcher contacted the head nurse of POPD and informed her about the study and the strategies for data collection to be conducted at the POPD such as reviewing patients' records, observing, and interviewing, including using the meeting rooms. The research study was then introduced to health care staff members.

Initial approach for study recruitment was conducted by a staff nurse who spoke with parents/caretakers of overweight children, who attend the POPD, and met the inclusion criteria (see sample criteria below), and asked them to participate in the study. Those interested in the research study met with the researcher when she was present to receive additional information about the study. When the researcher was not present at POPD interested potential participants were reached by phone numbers or through their addresses. The researcher provided all interested parents information of the purpose of the study and answering any questions regarding their concerns. Respondents agreeing to participate in the research study set dates and times to meet with the researcher and were recruited into the study.

Sample

The participants were parents or caretakers more than 18 years of age, who currently played a primary role caring for a child, and had a child aged six months to

three years. Study inclusions included: a child's weight status greater than the 97th percentile based on the Thai children growth chart adjusted by age and gender. The children had no chronic illnesses or diseases that affected their weight status. Participants or caretakers all lived in Bangkok, or the surrounding area. There were 13 caretakers and family members who took part in this study.

Data Collection

Glaser and Strauss (1967) mentioned a variety of data collection methods (interview, observation, document review) that enabled them to increase the credibility of GT, which brought sufficient numbers of general concepts to generate a theory. The more methods researchers use to study phenomenon, the broader and deeper the knowledge they gain and understand about the phenomena of interest (Charmaz, 2006). Therefore, to promote diversity of methods of data collection, for this research the researcher proposes four methods of inquiry: observation, interview, journal writing, and document review.

Observation

Observation is the first technique of data collection when researchers enter participants' worlds or the contexts of natural scenes. Observation allows researchers to gain a deeper understanding of participants rather than relying solely on interviews (Glaser & Strauss, 1967). It also enables researchers to see things that participants themselves are not aware of or that they are not willing to discuss (Patton, 1990). In this study, observations by the researcher occurred two to three times, depending on the circumstances. Some participants were observed at the POPD while they were waiting for a meeting with a doctor. This observation included the participants' behavior such as

how they took care of their overweight child, and the kinds of foods and how often they provided them to their child (appendix J). The observation lasted one to two hours for each participant. Field notes were taken; these notes reflected all circumstances of the observation.

Some participants had observations conducted at their home concurrently with their two interviews. These observations were focused on the environment, interaction between caretakers/family members and their child, and how they took care of their children, for example the kind and amount of food given to the child, the frequency of feeding, and the child's activities etc., including eating behaviors. These observations were one to two hours in length and again, field notes were written.

Interview

Interviewing is the most important strategy for data collection. Glaser (1992) maintained that some interview-specific questions, without forcing data, are required for interviews. These questions must be related directly to what the interview is about broadly. However, if participants feel hesitant in responding to broad questions, a purposeful follow up probe may be essential (Munhall, 2007).

In this inquiry, two individual interviews by the researcher took place with each of the participants (caretakers). For one participant, it was convenient to give a first interview at the POPD, and a second interview at her home. For another participant it was convenient to give two interviews at the hospital, and for the other 11 participants it was convenient to give both interviews at their home. The two interviews were taken approximately one week apart. The purpose of the second interview is to validate and add to information from the first interview (Glaser, 1992). The first interview lasted

about 60 to 90 minutes in each case.

Some neutral questions were used to start the interview (Glaser, 1967) such as “Do you like being a parent? Do you have any difficulty in raising your children? The additional probing questions were based on participants’ responses. Some guiding questions such as “How do you take care of your children? How do you evaluate your child’s weight status? What do you feel are the consequences of children being overweight? What do you believe contributes to a child being overweight? How do you feel you provide for your child’s overall health? How do you shape your child’s diet and activities?” (appendix K) were used if participants felt hesitate to answer broad questions (Munhall, 2007).

During interviews, the researcher clarified the meaning of some points that caretakers or family members were uncertain or ambivalent about. The researcher made sure to summarize the caretakers’ viewpoints, and reflected back to confirm the accuracy. Many times other family members were involved in the interview such as a grandmother, father, uncle, or neighbors. These interviews that included family member were useful for a data triangulation. Field notes were written to capture any aspect of the interview that the researcher finds meaningful (Glaser, 1967). Two tape recorders were used during conversations to prevent any errors in recording.

The second interview involved a shorter period of time, between 30 to 45 minutes. The neutral questions were used as in the first interview, but this time, the participants had a chance to change or add more detail to fill in the gaps. The researcher also had a chance to check the participants’ meanings, interpretations and other answers to clarify some points/gaps in the first interview that were originally transcribed by the

researcher. Approximately one to two weeks was spent collecting each participant's interviews.

Journal Writing

Journal writing is a qualitative research technique to illuminate participants' experience. The journal also could reflect their ideas, beliefs, and their own responses to the research in progress (Janesick, 1999). When it is not possible for the researcher to spend long times observing participants' behavior, journal writing is for the purpose of exploring the actions and interactions between participants and their overweight children. The writing will be a chance for participants to reflect their thoughts, beliefs and points of view freely. In this inquiry, participants spent approximately 15 minutes per day writing about three topics (a) Types of food that they give to their child during the day, including amount and frequency; (b) their child's activities during the day; (c) Any thing else they want to write about themselves and/or their overweight child (appendix L). The journal writing was started after participants completed the first interview. The writings were at least three days continuously; one time written on a weekday and one on the weekend. The journal writings were collected during the second interview. In some cases journal writings were not finished by the time the second interview took place, in these cases they were sent back via mail when completed.

Document Review

Documents are valuable sources for data analysis of GT (Glaser, 1967). In this inquiry, documents are children's medical records and these were reviewed after the first interview. The review was focused on demographics, weight status (growth chart), dietary record, growth and development, the history of illness, the record of weight-

control programs that overweight children were involved in, and physician's advice (appendix M). These data was summarized and analyzed together with the data from observations, journal writing and interviews.

The Data Collection Process

The dissertation was approved by the IRB of University of Massachusetts (US), and the IRB of Ramathibodi Hospital (Thailand). The head nurse and nursing staffs of the Pediatric Out Patient department (POPD) were contacted and informed about the study and methods that would be conducted to collect data (this process was conducted while waiting for approval by Ramathiboldi Hospital IRB). The participants were recruited at POPD. Participants/ caretakers are 18 years or older and have overweight children (cutoff is above the 97th percentile of Thai children growth chart adjusted by age and gender) aged six months to three years without chronic diseases.

Caretakers were given information about the study by the on-duty staff nurse (appendix B and C). Two caretakers were interested in the research study, and the researcher was present at the time, so they were referred by the staff nurse to meet with the researcher. Both caretakers agreed to participate in the study and completed the consent (appendix E,F,G,H) and demographics forms. The demographic questions (appendix I) were comprised of participant's age, occupation, salary, weight and height, past illnesses and family history, and the type of structure (nuclear family, expanded family, single mom, etc.). These demographic questions were from a literature review validating that these variables affect a child's weight status (The demographic data was excluded from the GT analysis). This data was summarized and presented as descriptive data. These were solicited at the first observation at POPD.

One caretaker indicated it was convenient to give their first interview, including observation at POPD, after they finished visiting the doctor at the clinic. This particular caretaker was given their second interview, including observation, at the participant's house. The clinic visit was not a convenient time for the other caretaker was not convenient to give their first interview, so the first and the second interviews, including observations, were arranged to take place at the participant's house.

Twenty caretakers expressed interest in the study when the researcher was not on site at POPD; they left their cell phone numbers and addresses. The researcher called them back, giving them more information, such as how to take part in the research study and its purpose (appendix D), including answering the participants' concerns. Eleven caretakers agreed to participate in the study, the two required interviews (including observations), were arranged either at their house or the hospital. Ten caretakers indicated it was convenient to give both of their required interviews at their homes. There was one other caretaker who indicated it was convenient to give her two required interviews at the hospital. All participants (caretakers) signed the consent forms and completed the demographics form when they first met with the researcher.

The caretakers wrote a journal for three consecutive days after they gave the first interview. Most participants finished their journal writings by the second interview, but four participants did not; two of these four participants sent theirs back by mail, the other two participants failed to send theirs back. The patient's medical record was reviewed after the first interview and before the second interview. Some questions that occurred while reviewing the first interview were clarified during the second interview. After the second interview, each participant received \$10 cash compensation.

Data from observation, interview, journal writing, and document review was analyzed day by day. This process was taken place until the proposed theory emerges. The next data collection was guided by theoretical sampling until the properties of each category were saturated.

Data Analysis and Management

Demographic data was excluded from GT analysis. All demographics data are summarized and reported in chapter 4 (Table2).

Grounded theory analysis was applied to analyze and generate a theory. In GT, analysis occurs simultaneously with data collection and any further data collection was guided by theoretical sampling. The following was the data preparation and two coding steps of data analysis (substantive and theoretical coding) following a Glaser’s GT approach. The substantive coding was divided into two steps: open and selective coding.

Table 1: Data Analysis

Data Analysis	Family
Open coding	Family 1-3
Theoretical samplings <ul style="list-style-type: none"> - Different types of family (single parent, nuclear, extended) - Different ages of children - Different family financial status - Different weight status - Different health care service for receiving vaccine - Different levels in following food recommendations 	Family 4-9
Selective coding and saturate properties of each category	Family 10-11
Theoretical coding and confirmation of a theoretical model	Family 12-13

The preparation steps, which create the structure of the description, were created by including name, plot, time, scene, context, characters, events and actions (Glaser, 1967). For convenience, the structure of the data was created in a table format, to

manage each set of data such as the number of participants, names, ages, addresses, phone numbers, hospital numbers, weight status, care takers, type of family, and date that data was received/recorded during observations, interviews, journal writings, and health record reviews (appendix N). The tape recording of each interview was transcribed verbatim. The transcription was reviewed again until the data was found to be accurate by the researcher.

In the first step of analysis, open coding, the transcript, field notes from observations, journal writings and reviewed documents from the first participant (caretaker) were coded line by line. Initial concepts were identified (Glaser, 1967) by the researcher using the Microsoft Excel program to sort/group data. The constant comparative technique was used to compare differences and similarities among these concepts from interviews, observations, journal writing and document review to generate various categories and their properties. Memos were written to express each property of category (Glaser, 1967). The next two sets of data collection from two caretakers, and family members, were analyzed in the same way as the first set of data in order to further initialize concepts and categories.

The constant comparative method was used again between the concepts of new incidents and the previous concepts to allow more categories and their properties to emerge or add more data to the previous categories, if the new concepts fit in. Various categories emerged, such as Conditional Feeding, Meaning of Crying, Begging for Food, Characteristic of Caretakers, Caretakers' Perception, and Feeding Behavior. The theoretical sampling was applied to further data collection such as different types of families (single parent, nuclear family, extended family), different ages of children,

different weight status of children, and different family financial status.

There were six caretaker/family members that were guided to participate more in the study, using theoretical sampling, to saturate the properties of each category (Glaser, 1967). This means interviews, observations, journal writings and document reviewing were still occurring at some point in the research process to fill unsaturated categories. The data arrangement, including name of each category and its properties, was moved/changed back and forth until they fit and saturated the data requirements.

The second step, selective coding, was used when a prospective theory had emerged. A core category was created by a selective coding step, which is systematically related to other categories (Glaser, 1967). In this research study, Child-Feeding Practices (CFP) was identified as the core category. The constant comparative method was applied again to delimit categories. The categories, which were not relevant to the core category (CFP), were excluded (Glaser, 1967).

There were five categories selected due to selective coding, they are Encouraged Feeding (EF), Family Positive Perception (FPP), Weight Gain (WG), Observational/Interventional Triggers (OIT), and Controlled Feeding (CF). According to, the properties of FPP category was seemingly unsaturated, there were two more families that took part in this research study to saturate properties of each category.

The third step, theoretical coding, was used to conceptualize the substantive code by memo sorting those that were related to each other, among categories as hypotheses, to be integrated into a theory, to represent a basic social process that influence a child being overweight. There were six categories, mentioned above, those are related and interact to each other as a process contributing to a child becoming overweight. The

emergent substantive codes were then used to weave the fractured story back together again (Glaser, 1967). The idea of the outcome as a theory and its diagram were moved back and forth during the process of reviewing. After the theoretical saturation had been reached, the researcher returned to the setting and collected data from two more families.

The result was reviewed by a Thai professor, who is an expert in GT, to ensure the integrity of the process, and the methodology used. Her suggestions throughout the process were very helpful, such as how to process the theoretical sampling, which property of each category appeared not to be saturate, and which needed more data collection. The final outcome, which was developed as a model, was discussed again with two of the participants. Generally, the participants (caretakers) understood and agreed with the model, and that the model reflected their child's weight problem.

They also discussed having different levels (Higher/Lower) in each category, based on their unique situation. For example, one participant expressed that a trigger of her child's weight was so strong because a doctor kept telling her that her child was obese, so she started to become more concerned, and began strictly limiting feeding. She still had hope (Positive Perception) that if her child goes to school next year, that her weight may start decreasing, because she will eat on schedule and focus more on her classes. Another participant admitted that she had a high level of Positive Perception and low level of Controlled Feeding. She did not believe that her child was overweight, because she feels that her child is also taller. Even though her child (2 years 7 months) still drinks milk as regular food, instead of stepping up to solid food (her child declines solid food), she believes formula milk is not causing her child to become overweight.

The suggestions and comments from participants were discussed with a Thai

professor and appeared not to need added data or editing in the final narrative. The theory was also checked again by peer review. The peer is a PhD student who just graduated from Chiang Mai University. Her area of study is psychology that utilizes GT. The review was carried out throughout the process of data collection and data analysis.

Finally, the process and outcome of the study was translated from Thai to English. Translation started during data collection and throughout the data analysis, and a Thai professor who is bilingual verified the translation. During data collection and analysis, the advisor and committee members at the University of Massachusetts, Amherst (US), were informed periodically of the process, and suggestions were made on the final outcome before writing a report.

Trustworthiness

Guba (1981) proposed four criteria comprising trustworthiness in a qualitative study, (a) credibility/internal validity,(b) transferability/ external validity/ generalizability, (c) dependability/ reliability, □(d) confirmability/objectivity (Shento, 2004, p. 64). The following are the strategies that are relied upon by Guba to ensure trustworthiness of a study.

Avoid Researcher Bias and Preconception

Journal writing between the researcher and participants enhances credibility by avoiding bias and preconception (Lincoln & Guba, 1985). The researcher wrote a variety of information daily describing her thoughts and observations as they apply to herself and the participants. The journal writing revealed logistics of the study, and also reflected preconceived thoughts and hypotheses on the phenomena. It helped the researcher analyze data with rationale for decisions about the analysis.

Ensure Theoretical Saturation

The conception of theory is inadequate unless a researcher strives for saturation (Glaser, 1992). Theoretical saturation occurred when data is collected until they reach saturation in each category. This means that no new or relevant data emerged with continued sampling (Glaser, 1992). In this inquiry, data collection and analysis was continued until reaching theoretical saturation. When theoretical saturation was achieved, the researcher returned to the setting and collected two additional sets of data (two additional participants) for verification purposes.

Credibility

Credibility is the key to ensure internal validity by validating the measures and tests. Guba (1981) believed ensuring credibility is the most important factor to promote trustworthiness. The following provisions establish confidence that researchers have accurately recorded the phenomena under scrutiny:

Triangulation

Triangulation involves the use of different methods and various kinds of data collection such as observation, individual interviews, and focus group interviews. Another form of triangulation may involve the use of a wide range of data sources by using a diversity of informants. Finally, collecting data from various organizations is another way to meet triangulation (Dervin, 1976). In this study, the researcher used four different techniques to collect data: observations, interviews, journal writings, and document review. However, this study focused on only one hospital.

Data Awareness

Use of iterative questioning uncovers deliberate deceptions. When researchers

return to previous informant and extract data where contradictions have emerged, rephrased questions may detect falsehoods. Researchers could then decide whether to discard the suspect data (Shento, 2004). In this study, the researcher tried to watch out for the false or suspect data and questioning was used to uncover these suspected data.

Supervisor Discussion

Frequent debriefing sessions occurred between the researcher and his or her supervisors. The discussion brings widened experience and perceptions. Furthermore, supervisors who are expert in the area may help the researcher to develop ideas and interpretations. Probing from others may help researchers to be aware of biases and preferences (Shento, 2004). A Thai professor, who is an expert in GT, supervised the researcher throughout the data collection and analysis. The advisor was periodically informed about the process of data collection and analysis. The results were discussed with and reviewed by the advisor/co-advisor.

Peer Review

Peer scrutiny of the research project can establish credibility. The feedback from colleagues and peers, helps researchers to focus their ability to view data with real detachment. The scrutiny by these people enables researchers to refine their methods, develops a greater explanation of the research designs and strengthens his or her arguments. Guba and Lincoln (1985) believed member checking is an important provision that can establish a study's credibility. Checks are related to the accuracy of the data collection dialogues. Another form of peer review focuses on verification of the investigator's emerging theories and references formed during the dialogues. In this inquiry, the researcher had her peer and a Thai professor check emerging categories and

their relationships, and the final outcome of the theory.

Thick Description

Thick description of the phenomenon under scrutiny can establish credibility. Explanation of the actual situation in detail as it has been investigated can promote credibility. Without the insight of the actual situation, it is difficult for readers to understand and determine the extent to which the overall findings “ring true” (Guba and Lincoln, 1985). In this paper, the phenomena of interest and the setting of the study was described in detail. The methodology and data analysis was illustrated step by step.

Expanded Finding

Examination of previous research findings can promote credibility. Silverman (1993) held that the examination of the previous research findings and existing body of knowledge, if they are congruent or related to the project’s results, can promote the credibility of qualitative research. In this paper, after a theory emerged, the previous research findings (literature review) and existing body of knowledge were integrated and expanded by the findings to create new knowledge and better understanding of the phenomena of overweight children.

Transferability

Transferability refers to the ability to apply a finding to other settings or circumstances. The results could be applied to other settings if the researcher provides enough information on the fieldwork or the circumstances in detail, not just a description. Lincoln and Guba (1985) believe that it is a researcher’s responsibility to ensure sufficient contextual information about the fieldwork sites to the readers. This information enables readers to determine if transferability is appropriate. The work of

Cole and Gardner (1979), Marchionini and Teague (1987) and Pitts (1994) suggested some information that readers must be consider before accepting transferability: (a) the number of organizations taking part in the study and where they are based, (b) any restrictions on the type of people who contributed data, (c) the number of participants involved in the fieldwork, and (d) the data collection methods that were employed.

The aim of this research is to develop substantive theory that explains the basic social process of how parents' action and interaction to their overweight children including exploring other factors that are relevant to childhood overweight. A theory was presented as a diagram with explanation. Rich descriptive narrative and quotes were provided allowing readers to better understand participants' worldviews and their context. Health care providers could apply the theory if it fits to the problem area and the context.

Dependability

According to reliability of positivist technique, if the work were repeated in the same context with the same methods and with the same participants, similar results would occur. However, for dependability of constructivism, the process within the study should be reported in detail and be sufficient enough to enable a future researcher to repeat the work. The results will not be necessarily the same (Lincoln & Guba 1985). The in-depth coverage report allows readers to assess the extent to which proper research practice has been followed. The report includes: "(a) the research design and its implementation, describing what was planned and executed on a strategic level; (b) the operational detail of data gathering, addressing the minutiae of what is done in the field; (c) reflective appraisal of the project, evaluating the effectiveness of the process of

inquiry undertaken” (Shento, 2004, p.71). In this study, the methodology of GT was described in detail including research design, samples, setting, access and analytic process. The limitations and implementation were provided.

Confirmability

Confirmability refers to the qualitative investigator’s comparable concern for objectivity. It provides the steps to ensure the results are from the experiences and ideas of the informants rather than the characteristics and preferences of the researcher.

Triangulation is one step to promote confirmability and must be reported because it minimizes researcher’s bias (Patton, 1990). The detailed methodological description should be reported as an “audit trail,” which allows readers to trace the course of the research step by step describing the researcher’s decision-making and procedures.

The audit trail may be reported as a data-oriented approach, showing how the data gathering relates to the formation and processing during the course of the study. The audit trail may be reported as a whole of the duration of the project (Shento, 2004). In this study, the audit trail was reported as a description of the whole project. The triangulation was applied in various steps of study (see above). Peers and the Thai professor also played a crucial role contributing to the triangulation of data after categories and their relationships had emerged.

Protection of Human Subjects

The research proposal must be approved by the University of Massachusetts IRB (U.S) and the Ramathibodi hospital IRB (Thailand). All participants were informed about the nature of the study, and were free to decide to participate in the study, or not. The participants were also informed that they could stop the interview process at any

time, if they wished to do so. The consent form was used to confirm their agreement. The participants' anonymity was maintained. The researchers kept all study records, including any codes to data, in a secure location at the locked cabinet at Ramathibodi Nursing School. Research records was labeled with a code. A master key that links names and codes was maintained in a separate and secure location. The master key and audiotapes will be destroyed after the study has been completed and published, this will be completed in approximately three years (2017).

All electronic files including all the types of electronic files that were used, such as databases, spreadsheets, etc. containing identifiable information were password protected. Any computer hosting such files also had password protection to prevent access by unauthorized users. Only the members of the research staff had access to the passwords. At the conclusion of this study, the researchers may publish their findings. Information will be presented in summary format and individuals will not be identified in any publications or presentations.

Qualifications

The researcher is currently studying in a PhD program at the University of Massachusetts, Amherst and is interested in overweight children's issues. Prior to beginning her doctoral studies, the researcher was faculty at Mahidol University, teaching in the pediatric outpatient department for many years. During this time, the researcher worked in the summer camp for school-age overweight children run by the POPD. The camp enabled overweight children to evaluate their weight status, learn about healthy diets and the benefit of exercise. Although the camp helped overweight children lose some weight, we discovered that participating children tended to gain more weight after

finishing the camp. This discovery led to the researchers interest in exploring the social processes related to overweight and obesity in children. At doctoral level of course work, the researcher has studied various aspects of qualitative research and practiced skills in interviewing and transcribing.

She also studied qualitative analysis in the School of Education, including coding, identifying emerging categories and their relationships, and writing memos and monographs. Her comprehensive exam was titled “The Evolution of Grounded Theory since its Initial Introduction by Glaser and Strauss to its Present Day Use in Nursing Research.” These experiences and education will help the researcher to better understand the research area. It also enables her to apply GT to the study more appropriately. Finally, this study will help her better understand parents’ behaviors and social processes that contribute a child being overweight.

Research Timeline

The proposal for this inquiry was defended in the early fall semester, 2013. Institutional Review Board (IRB) approval was finished by the end of spring semester, 2014. The researcher flew back to Thailand in May of 2014. The proposal was approved by IRB of Ramathibodi Hospital in May of 2014. The process of data collection and data analysis was completed between May and September of 2014. The theoretical development by professor’s suggestions, and peer checking was continued from September 2014 to December 2014. The outcome of the theory development by reviewing of current or relevant literature and comparison to extent theory including translation from Thai to English version has taken place between January and March of 2015. The final step was writing the outcomes in a dissertation format and defending the

final dissertation in May-June of 2015.

Summary

Chapter 3 illustrates the research design, data collection and data analysis consistent with Glaser's GT approach (1967, 1992). The research design describes the characteristic of the setting, and process for engaging, and recruiting participants. Furthermore, the design of data collection, and data analysis and management based on Glaser's GT are described in the second part. In addition, the trustworthiness including credibility, transferability, dependability, and confirmability, are described by following Lincoln and Guba's (1985) guidelines to ensure that this inquiry meeting the criteria of trustworthy qualitative research. The protection of human subjects is explained including IRB approval, anonymity of data and informed consent. The qualification of the researcher including past experiences and education is also provided. Finally, the proposed time line is outlined.

CHAPTER 4

RESEARCH FINDINGS

Introduction

The prevalence of overweight children is increasing around the world (Novotny et al., 2015; Statistical annex: explanatory notes, 2004). The consequences of being overweight affect the incidence of physical and mental health problems in children (Chapter 2). The latest survey of Thai children's health status showed the number of overweight children is rising, and has been on the rise for a decade, especially in big cities such as Bangkok, Chiang Mai, and Hat Yai (The National Statistical Office (NSO) of Thailand, 2009).

Various programs in Thai health care services have been created to handle cases resulting from weight problems. Most programs have focused on school age children, but the outcomes were only successful for a short period of time (Chapter 2). Therefore, this research study focused on families of children below three years of age, who live in Bangkok, Thailand and the surrounding area. The aim of this research was to study the social processes that influence a child being overweight at an early age.

Findings from this research conducted using grounded theory illustrate symbolic interactions reflecting a basic social process of a child being overweight in Thailand. The findings are based on a variety of data sources including audio recording of interviews, observation, journal writing, and reviewing the children's health records. Grounded theory, as a methodology, was utilized to guide data collection and data analysis.

There are thirteen families involved in this research study. Open coding was the first step in data analysis to initialize categories. The theoretical sampling was utilized as

the next step, to collect further data to saturate the categories and their properties.

Selective coding was then used to create a core category, and theoretical coding was the final step in creating a model and hypothesis.

The findings revealed six categories that interact/relate to each other, contributing to a process, and developing a model to answer the research question “What are the social processes that influence a child being overweight in Thailand?” The purpose of this chapter is to illustrate findings, including demographic characteristics, overall findings of categories, their definitions, the relationships among categories as a theoretical model, and the social processes.

Demographic Characteristics

There were thirteen families involved in this research study. The table below illustrates the demographic characteristics of children and their families, including the each child’s age, weight status, birth weight, mother’s BMI, family income, primary caretaker, and type of family.

Table 2: Demographic Characteristics.

Child’s Age	Size for Gestational Age	A Child’s Weight Status	Mother’s BMI	Family Income Baht/month	Primary Caretaker	Type of Family
7 m.	AGA	Overweight	22.43	10001-15,000	Grandmother Mother	Extended
1 yr. 7 m.	LGA	Mild obesity	24.97	20001-25000	Mother	Extended
1 yr. 7 m.	AGA	Overweight	20.08	>25000	Grandmother Mother	Separate
1 yr. 7 m.	AGA	Moderate obesity	21.64	>25000	Mother	Nuclear
2 yr. 3 m.	LGA	Mild obesity	21.05	20001-25000	Mother	Extended
1 yr. 5 m.	AGA	Severe obesity	39.84	15001-20000	Grandmother Mother	Extended

2 yr.8 m.	AGA	Moderate obesity	34.52	15001-20000	Grandmother Mother	Extend
9 m.	LGA	Overweight	22.41	>25000	Grandmother Mother	Extend
1 yr. 8 m.	AGA	Moderate obesity	17.44	<5000	Mother Father	Extend
3 years.	SGA	Moderate obesity	13.82	<5000	Mother Father	Extend
2 years.	AGA	Mild obesity	25.78	>25000	Mother Father	Extend
10 m.	AGA	Mild obesity	23.94	5001-10,000	Mother Father	Extend
2 yr.2m.	AGA	Mild obesity	31.25	20001-25000	Mother, Father	Extend

Note: SGA defined as “small for gestational age”, AGA = “appropriate gestational age,” and LGA = “large for gestational age.”

Thirteen families participated in this research study including mothers, fathers, and grandmothers. Other family members were occasionally involved in the interviewing process. There were 13 children, eight boys and five girls, involved in this research study; they ranged in age from 7 months to 3 years of age. Children’s weight status ranged from being overweight to severely obese, and most of them lived in extended families. Their birth size varied from small for gestational age to larger than appropriate for gestational age. All participants lived in Bangkok and the surrounding area. The family income ranged from less than 5000 baht to more than 25,000 baht per month. They all use Thai as a primary language (see more information at Appendix O).

Overall Findings

The research findings illustrated that six categories of behaviors contributed to, and were involved in, a child becoming overweight. Child-Feeding Practices (CFP) play a crucial role as a core category directly influencing a child’s Weight Gain, (WG). Child-Feeding Practices come from the interaction of two categories, Encouraged Feeding (EF) and Family Positive Perception (FPP). The Observational/Interventional Trigger (OIT)

occurs when a child is viewed to be larger than he or she should be. Some Controlled Feeding (CF), and provision of healthier foods, were implemented to adjust CFP. However, the CF is not effective, nor consistent enough, to change the CFP pattern. The following illustrates the category findings including their properties, dimensions, definitions, and their relationships.

Category and Definition

Category Finding

The category comes from the constant comparative analysis revealing broad groups of similar concepts pertaining to similar attributes or characteristics called “Properties.” The “Dimensions” of Properties refers to location of the properties along a continuum (Strauss & Corbin, 1990). According to Glaser (1992), properties don’t need to be dimensionalized if this characteristic does not exist.

There are six categories in the research findings that contributed to, and were involved in, a child becoming overweight. Child-Feeding Practices (CFP) are a core category, the others are Encouraged Feeding (EF), Family Positive Perception (FPP), Weight Gain (WG), Observational/ Interventional Triggers (OIT), and Controlled Feeding (CF). Each category is composed of its properties and dimensions and is illustrated in Table 3 below.

Table 3: Overall Category Finding.

Category	Properties	Dimensions
1. Child-Feeding Practice (CFP) (Core category)	1). Inappropriate overfeeding based on age -Types of food (milk/supplementary/solid) -Amount of feeding - Frequency/duration 2). Additional food/snacks	-Level -Consistency
2. Encouraged Feeding (EF)	1) Child’s temperament characteristics -Eating behavior (enjoys eating, never	-Intensity -Frequency

	<p>seems to feel full, likes eating larger portions)</p> <ul style="list-style-type: none"> -Demanding behaviors (requesting/signaling/tantrum for food) -Food choices/preferences <p>2) Environment (inside/outside influences)</p> <ul style="list-style-type: none"> -Inside influences (night feeding, refrigerator access, family members sharing food) -Outside influences (mobile food merchants, neighbors /strangers feeding) 	
3. Family Positive Perception (FPP)	<p>Positive Perceptions</p> <ul style="list-style-type: none"> -Food helps overall growth -Formula (milk) increases height -Young children need enough/more food -Brain growth needs enough nutrition -Will get skinnier with age, grow out of it -Not too overweight -Will get skinnier at school -Too young to cooperate/understand -Too early to restrict food -Parents' role is providing enough food -No family history of being overweight 	-Intensity
4. Weight Gain (WG)	Weight gain	<p>Weight status</p> <ul style="list-style-type: none"> -Overweight -Mild obesity -Moderate obesity -Severe obesity
5. Observational/ Interventional Triggers (OIT)	<p>Triggers</p> <p>1) Observations from caretakers/family</p> <ul style="list-style-type: none"> -Holding a child -Clothes fit -Eating more often -Child finding it difficult to sit and stand -Peer comparison -Physical health problem <p>2) Innocent greetings from Neighbors/Strangers</p> <p>3) Suggestions from Health care providers</p>	<p>-Intensity</p> <p>-Frequency</p>
6. Controlled Feeding (CF)	<p>Strategies</p> <ul style="list-style-type: none"> -Deviated attention / Meal extending -Milk dilution -Small portion of food -Hiding food/ Hiding when eating -Food restriction (unhealthy food/drink) 	<p>-Intensity</p> <p>-Consistency</p>

The table above demonstrates the title of each category, its properties, and its dimensions. Child-Feeding Practices (CFP) is a core category composed of two properties. There is inappropriate overfeeding based on the food recommendations from Thai Ministry of Public Health, when considering the child's age and additional food/snacks. The dimensions of each property are illustrated by the level (how much) and consistency (how long) a child receives overfeeding. The Encouraged Feeding (EF) category is composed of two properties, child's temperament and environment (inside/outside home influences). The dimensions of these properties are illustrated by how often and intensely these properties occurred.

The Family Positive Perception (FPP) category is composed of only one property, the perceptions of caretakers and family members about feeding and their child's growth needs. Its dimensions are illustrated by the strength (intensity) of the perception they have. The Weight Gain (WG) category is composed of only one property, a child's weight gain, and its dimensions are weight status (overweight, mild, moderate, and severe obesity).

The Observational/Interventional Triggers (OIT) category is composed of three properties: observations from caretakers/family, innocent greetings from neighbors/strangers, and suggestions from health care providers. The dimensions of these properties include how often they occurred, and how strongly they presented themselves. The Controlled Feeding (CF) category is composed of only one property, the various strategies caretakers and family members use to limit feeding, and its dimensions are how often and consistently CF is practiced.

Category Definition

The definition of each category is explained below, demonstrating the meaning of each category, covering all properties and their dimensions. The contexts, conversation examples, and some journal writings are included.

Child-Feeding Practices (CFP) Category

The Child-Feeding Practices category in this study refers to all feeding a child receives daily. It is composed of two properties, inappropriate overfeeding (formula, supplementary food, solid food), and additional food/snacks. Children participating in this research were from seven months to three years of age, and were commonly fed or provided food by caretakers. The age range of the children is also a time of transitional feeding (formula/milk to solid food), and a time when children experience a variety of new foods. The findings illustrate that overweight children who participated in this research are inappropriately overfed during their daily regular schedule, and through access to additional food/snacks. Inappropriate overfeeding was defined based on age, type of food, amount of food, and frequency/duration. Additional food/snacks were defined as extra food beyond the required normal daily feeding schedule.

Inappropriate Overfeeding (nutritive purpose)

Inappropriate overfeeding is one of the properties of Child-Feeding Practices category. It refers to the food (milk, supplementary and solid food) that are fed to a child in increased amounts, or more frequently, based on a child's age specific food table recommendation below.

Based on a child's age, The Thai Ministry of Public Health has created recommendations for appropriate feeding including types of food (milk, supplementary

and solid food), amount, and duration of feeding. Every hospital distributes these recommendations on the *Vaccine-Recording Book* that is useful and easy for parents to follow after discharge from the hospital.

Table 4: Recommendation of Adequate Amount of Daily Food Intake for a Child, Birth to Three Years.

Age	Types and amount of food	Frequency /day
0-6 months	Breast feeding (BF)	6-8 times
6 months	BF/infant formula 1 (4-5 oz.) Supplementary food -3 tbs. of finely ground cooked rice -½ egg yoke or 2 tbs. of fish or 1 tbs. of liver paste -½ tbs. of finely ground cooked vegetables such as Ivy gourd or pumpkin -1-2 pieces of ground fruits such as banana, papaya.	5 times 1 meal
7 months	BF/infant formula 1 or 2 (5-6 oz.) Supplementary food -4 tbs. of ground cooked rice -½ boiled egg alternated with 1 tbs. of liver paste or fish or pork or chicken -1 tbs. of cooked vegetables such as star gooseberry, ivy gourd, or pumpkin; -1-2 pieces per meal of ripe fruits such as 2 pieces of papaya or 2 pieces of ripe mango	5 times 1 meal
8-9 months	BF/infant formula 1 or 2 (6-7 oz.) Supplementary food -4 tbs. per meal of roughly ground, soft cooked rice -½ boiled egg alternated with 1 tbs. of liver paste or fish or pork or chicken -1 tbs. per meal of cooked vegetables such as star gooseberry, ivory gourd, pumpkin or Chinese cabbage -2-3 pieces per meal of ripe fruits such as 3 pieces of papaya, 1 banana	4 times 2 meals
10-12 months	BF/infant formula 1 or 2 (7-8 oz.) Regular food -4 tbs. per meal of roughly ground, soft cooked rice -½ boil egg alternated with 1 tbs. of liver paste or fish or pork or chicken -1½ tbs. per meal of cooked vegetables such as star gooseberry, ivory gourd, pumpkin, Chinese cabbage, or carrot -3-4 pieces per meal of ripe fruits such as 4 pieces of mango, 1 orange	2-3 times 3 meals
1-3 years	Infant formula 2 or 3/fresh milk (8 oz.) Regular food -3 scoops of cooked rice -3 tbs. of cooked meat with small pieces for easy chewing and taken alternately with fish, egg, seafood, tofu, chicken, and duck -2 scoops of cooked vegetables with dark, yellow-orange vegetables and other vegetable taken alternately -3 portions of seasoning with thoroughly washed (1 portion equals 1 banana, 2 medium oranges, 4 rambutans, half a guava, half a mango, 6 bites of papaya, or 6 bites of pineapple)	2 cups 3 meals

Note: Infant Formula1 recommended for newborn from birth to 1 year

*Infant Formula2 (powdered milk) recommended for a child aged 6 months to 3 years

*Infant Formula3 (powdered milk) recommended for a child age more than 1 year

*Children who are more than one year, are recommended to have infant formula 2, 3 or fresh milk)

(Nutrition Division, Department of Health, Ministry of Public Health, Thailand, 1992)

According to the recommendation on appropriate feeding above, a caretaker should base feeding on a child's age, types of foods, amount, and frequency of feeding. Recommended feeding for the first six months, is breastfeeding or formula. At 6 months, one supplementary food meal should begin, two meals at 8-9 months, followed by three solid meals starting at one year. Supplementary food should begin with smaller amounts, and gradually increase, and go from food that is ground up, to more solid. After children step up the supplementary feeding, formula milk should decrease and be maintained at 2 cups per day. The findings illustrate that caretakers or family members have a hard time following recommended guidelines of the Thai Ministry of Public Health. They are inappropriately overfeeding based on the child's age, by increasing the amount and frequency of the recommended foods.

Types of Food. Even though breastfeeding is recommended in the first six months of a child's life, the finding shows that, only one mother was able to breastfeed her child for the full six months. Most mothers could breastfeed from only one to three months because they had to go back to work. Furthermore, some caretakers started supplementary food by following the Thai Ministry of Public Health's guideline above. For example, the researcher asked one mother "how does she know when she should start supplementary food for her child?" her response is below.

"I read a recommended vaccine book, it was very valuable resource. It not only provided me a schedule of the vaccine, but it also provides a table of supplementary/solid food. It shows me in detail how much rice, vegetables and

other food I should prepare for my child month by month based on” (IV. Mother.6.83).

However, some caretakers adjust time for starting supplementary food by themselves, based on the combination between suggestions from previous generations, and their *Vaccine-Recording Book*. For example, one child’s mom said that her own mother recommends starting supplementary food at age 1-2 months, but the *Vaccine-Recording book* states to start at 6 months, so she decided to start at 5 months. The following is an excerpt of the interview.

“R: when did you start supplementary food?

M: Do you mean some kinds of banana?

R: Yes.

M: At approximately 5 months.

R: Why did you decide to start supplementary food at 5 months?

M: My choices were based on a combination of old and modern recommendations. I did not want to follow one or the other.

R: Grandma... when did past generations commonly start the supplementary food?

GM: It depends, some people start feeding at 7 days, some start at one month, but normally they start at three months.

R: Where did you get the modern recommendation?

M: Generally, it comes from the hospital, books... sort of.

R: After you delivered, did the hospital provide you any information?

M: It provided some, but mostly I got the information from the *Vaccine-Recording Book*.

R: How long have you fed your child ground bananas?

M: For about a month, then she started getting bored and declined them.

R: How about rice, when did you start with ground rice?

M: After she refused the bananas, I started ground rice added to liver soup, with pumpkin, dtam-leung (vegetable), and sometimes carrot.

R: How much did you feed her?

M: It was gradually in steps. I started one spoon first and I increase it if she could eat all. Mostly, it depended on the interaction from my child but I did not feed her too much.

R: When did you start two meals of supplementary food?

M: At 7-8 months old. They were breakfast and dinner.

R: When did you start three meals of solid food?

M: At 10-11 months” (IV. Grandmother. Mother. 7.80).

Another child's mother insists that her child, age two years and two months, should be fed three solid meals and a couple of formula feedings per day. However, she is currently feeding him powdered formula milk, as a regular meal because she found her child does not like solid food. The following is an example of interview.

“R: What is he currently eating?

M: He does not eat rice. He (Vin) drink only formula and is addicted to sweetened food.

R: What kind of sweetened food?

M: Like coconut ice cream, he really likes it!!; but he doesn't.... really doesn't eat rice. It seems difficult for him to eat one spoon of rice. Mostly he drink only formula milk...Enfa...900 gram/pack and about...10 packages/month...can you imagine?! He eats all day...cries often and eats often.

R: Since birth until now? Has he still eaten the same?

M: No.. right now it is 900 gram/pack and 6-7 packages/month. The amount is decreasing because he also eats desserts and treats. He does not really eat rice. He does not have a regular meal because his regular meal is formula milk” (IV.Mother.13. 88).

Another example is one mother, whose child is one year and seven months, who was advised by health care providers to limit feeding. She cut off one regular meal instead of limiting the amount of formula, because her child does not cooperate with limiting of formula.

“R: He eats two regular meals, and the rest is formula?

M,GM: yes.

GM: He does not like eating rice. He eats only formula. One bottle of formula goes very fast; he eats often (IV.Mother.2. 923).

“R: How was his sleep pattern before, when he used to eat three meals?

M: He slept 10-11AM and sometimes 9-11 AM.

R: I get it; so that why he was able to eat lunch before.

M: Yes, and I think he gained 5 kg. from eating lunch on a regular basis. I continued to feed him lunch, until his sleep pattern changed, at which point he was sleeping right through lunchtime.

R: Did his sleep pattern change by itself?

M: Yes, so that's why he would skip lunch.

R: Why aren't you feeding him three solid foods and decreasing formula instead?

M: No...I can't ...when he wakes up I have to feed him formula. However, he does eat with me again late at night. I think I can count it as three meals, and when any family members are eating, he will eat some too.

R: How much does he eat with you?

M,GM: Not much.

R: So just two regular meals per day for him?

M: Yes, only two regular meals, and sharing three spoonfuls from my meal”
(IV.Mother.2. 966).

Children in this research tended to receive inappropriate types of food based on the child’s age in comparison to regarding food recommendations from Thai Ministry of Public Health. Most caretakers tend to start supplementary food too early, and sometimes they have a hard time increasing meals of supplementary food, because their child prefers drinking formula/milk overeating supplementary food.

Amount of Feeding. The findings illustrate that children who may/may not get the proper types of food (formula/supplementary/solid food) based on their age, are consuming larger servings of food or formula. The following example shows a boy who is one year and six months of age. According to the Thai Ministry of Public Health guidelines he should be getting three solids meals and two cups of milk (16 oz.) per day; instead his meals are much larger, and he is consuming much higher amounts of milk/formula.

“R: What type of food does your child love to eat?

M: I think bread, that makes him gain weight, and he also eats a lot of rice.

R: Rice?

M: If there is any item that he likes, oh my god, yes!!!...he won’t stop eating until I literally stop feeding him.

GM: In particular Khaw Mun Gai brand (Khao Man Gai is one of the most common street foods in Thailand. It is composed of slices of steamed or boiled capon meat are placed over a mound of rice. Cucumber slices and fresh cilantro leaves serve as a quintessential garnish. Sometimes, a few slices of cooked congealed chicken blood).

R: Does he eat a whole dish?

M: No; not really, but almost.”

R: How many oz. of formula milk do you give him generally?

M: It depends, before bed it was 16-24 oz. Right now I try to give him only 8 oz.

R: How many oz. per day?

M: Before that, it was 48-64 oz. per day” (IV.Mother,Grandmother.6.222).

Children, those who could step up complementary food based on their age, tend to be overfed, usually with increased food portion sizes, and sometimes larger amounts of formula. Children, who have a hard time to step up amounts of complementary food, tend to be overfed with larger amounts of formula milk.

Frequency and Duration of Feeding. Inadequate overfeeding does not mean just the types and amount of feeding, it also includes duration/frequency of feeding, and in particular formula/milk feeding. According to a recommendation for appropriate feeding for a young child, after caretakers/family start feeding supplementary food or solid food, the frequency of formula feeding should decrease. The findings demonstrate that children who are, or are not, properly fed supplementary or solid foods, are more frequently being overfed formula/ milk. As one mother stated, if her child is with grandma, he is fed with formula/milk every two to three hours because grandma thinks he will be hungry in this time frame (IV.Mother.2.430).

Caretakers who could not decrease formula after they started the supplementary food, would actually cause overfeeding by maintaining the frequency of formula/milk feeding. Caretakers may also have a hard time stepping up the supplementary or solid foods, and would cause overfeeding by increasing the duration of formula/milk feeding. The following example shows a boy who is one year and six months of age. According to food recommendations of The Thai ministry of Public Health, he should receive three solid meals and two cups of milk/formula; he does receive three solid meals, but is overfed by more frequent milk/formula feedings.

“R: After you give him supplementary food, did you decrease formula milk?

M: No...I did not, because I did not know about it until my child was about a year old and we visited the hospital (Ramathibodi). A doctor informed me my child was overweight and needed to lose weight.

R: Does this mean when you started feeding him a supplementary food at six months old, that you continued to feed him the same amount of formula milk?

M: Yes, I still fed him the same amount (6-7 bottles/day). He eats a lot and he likes to eat...sigh” (IV. Mother. 6.104).

Moreover, the findings revealed that, there are conditions under which children are fed more often. The research findings show that all children are commonly fed before going to bed, or before taking a nap, and they tend to be fed to keep them asleep during the nighttime/naps. The following is an example of a boy, who is one year and seven months. According to the Thai government guidelines she should be getting three solid meals and two cups of milk (16 oz.) per day, without any nighttime feeding; she does receive three solid meals, but she receives an average of 24 ounces of milk per day, some of which is received during a nighttime feeding (JW.Grandmother.3).

“R: Does this mean currently, 2 oz. of formula are fed at 4 AM, and 8oz. are fed before she goes to bed?

GM: Yes, if I give less than that, she will never sleep.

R: If she wakes up at 1 AM, will you have to feed her again?

GM: Of course, at least 4 oz.” (IV.Grandmother.3.125).

The findings above demonstrate that children in this research study receive inappropriate overfeeding by types of food, amount, and frequency of feeding. According to food recommendations from The Thai Ministry of Public Health guideline, children should start one supplementary feeding at 6 months, two meals of supplementary food at 7-8 months, and three solid meals should start at one year. After children step up the supplementary feeding, formula milk should decrease and be maintained at two cups per day. However, the research findings illustrate that participating children who had no problem with stepping up supplementary food, tend to be overfed with larger portions of

food, and sometimes larger and more frequent formula milk feedings. Children who had a hard time stepping up supplementary food, based on their age, tend to receive larger and more frequent feeding of formula milk.

Additional Food/Snacks (non-nutritive purpose)

Additional food/snacks feeding is another property of Child-Feeding Practice. It refers to any extra food or snacks that a child is fed beyond the regular feeding schedule, based on his/her age. Children in this research study were not only overfed during regular feeding, based on their age, but they were also receiving additional food/snacks. According to the milestones development of a child aged six months to three years, children like trying new things including food. They do not understand much about reason, they are self-centered, and they cannot control their impulses (Parenting and Child Health, 2013).

In this research, findings show that children generally enjoy eating; therefore, if they are exposed to food, they will want to try it. Some caretakers/family members eat extra food during the day, or they eat regular food at different times; they always share them with the child, in particular, when a child begs/demands the item of food. Some extended families are more likely to share food, especially those with more family members. The following example shows a girl who is two years and three months of age who receives additional food/snacks from her parents.

“F: My wife eats often; so, our daughter eats often too, because she shares.

R: Umm...her mom eats often?

M: Yes, but it is not unhealthy food. I eat rice. I eat often, every two hours, because I am hungry. If she wakes up and sees me eating, she will join, only if the food is not spicy” (l. 328).

“M: Sometimes, while her dad sneaks out to eat food in the kitchen, like a cookie, and she hears it, she will run to him and ask: ‘what are you eating.’ She knows when we are together and her dad has disappeared. Sometimes, I tell him “please

don't let her know when you eat coconut dessert, or other treats" but she always finds him and asks him for food" (IV.Parents.5.280).

Another example shown below is a girl who is two years and eight months of age, and she receives additional food/snacks from her family members.

“R: What did her doctor say?

M: He wants me to limit feeding her during the nighttime, but I said she likes to eat a lot for supper. Her grandmother feeds her at 6 PM. She will eat with me again when I get home at 8 PM. She will eat again with her uncle at 8-9 PM. Can you see what I mean? She will eat with family members who all have a different scheduled suppertime. Our family loves her; so they always give her food when she asks” (IV.Mother.7.237).

According to the research findings above, children are fed by signaling/interacting with caretakers or family members. Therefore, caretakers and family members have a hard time following feeding recommendations, leading to overfeeding. Children often receive improper overfeeding (milk/supplementary/solid foods) based on their age. They are usually overfed formula milk, and sometimes miss supplementary /regular feeding. Furthermore, they also get additional food/snacks by demanding/begging from a variety of resources, resulting in a calorie intake that is too great. The following is an example of journal writing (one full day) from a caretaker (mother) who has a child who is one year and five months of age.

Table 5: Example of Journal Entry.

October 1, 2014/ Time	Activities	Calories
9.00 am	Wake up	
9.30 am	Take a bath	
10.00 am	Breakfast (stir fried rice ¼ portion)	165
11.00 am	Playing on the floor	
12.00 am	Milk 8ozX2 and take a nap	320
3.00 pm	Wake up	
4.30 pm	Playing on the floor Shrimp cracker 1 pack	490
6.00 pm	Take a shower	

7.00 pm	Walk to Grandma's house and have dinner	100
8.00 pm	Come back from grandma's house	
9.00 pm	Playing on the floor	
9.30 pm	Milk 8 oz. before bed	160
10.00 pm	8 oz. X 2 bottle during a night	320
Total		1,555

From the example above (JW.Mother.9), the child is one year and five months; he should get three regular meals, two serving of fruit, and two cups of milk (8 oz. times 2) per day. The parents should stop all night feeding, and reduce or eliminate bottle-feeding. The calories based on age and height (100 cm.) of the child should be between 1200-1320 calories per day (Ministry of Public Health: Bureau of Health, 2010). However, the child is receiving 1,555 calories/day. His current feeding pattern of two regular meals instead of three, is inappropriate, consisting of too much formula milk (8 oz. times 5), and unhealthy food (shrimp cracker).

The level and consistency (dimensions) of inappropriate overfeeding and additional food/snacks vary from case to case. All children in this research are overfed; consuming more calories than their body needs, and some are fed certain foods (milk/supplementary/solid food) inadequately based on age. The level of overfeeding ranges, from a lower level of overfeeding, to a much higher level of overfeeding reported in the caretaker's journal entries. The consistency of overfeeding refers to how long overfeeding has occurred. Even though it is difficult to report exactly how long they have been overfeeding, the findings show that all children tend to be overfed since birth.

Encouraged Feeding (EF) Category

The Encouraged Feeding (EF) category in this research refers to any child's behaviors, environments, and circumstances that contribute to a child being fed more

often. Encouraged Feeding category is composed of two properties-- child's temperament characteristics and environment (outside/inside influences). Actually, caretakers feed a child based on being signaled to do so, and/or observing a reaction from a child who wants to eat more, or who wishes to stop. Some children's behaviors, and/or circumstances encourage them to be fed more often.

Child Temperament Characteristics

One property of the Encouraged Feeding category is child's temperament characteristics. It is defined as a child's eating behavior that encourages a caretaker or family member to feed him/her more. It also refers to food experiences or a child's reaction when trying new foods, and learning what his/her favorite foods are, or are not. Signaling or requesting (begging/ demanding /asking /tantrums) is another behavior that a child may use to obtain food.

Children's eating behaviors in this research refer to the different ways that they react or express themselves before, during, or after feeding. The findings illustrate that children participating in this research have some common behaviors for encouraged feeding. They enjoy eating, they can eat a larger amount/portion of food, and sometimes they fail to recognize they are full (low levels of self regulation). These eating behaviors encourage caretakers to feed them more and more. The following interview example illustrates a seven-month old boy, who loves eating.

“R: Does he like drinking formula or eating rice?

GM: Both; he likes eating food; in particular, when he sees a bottle of milk, he starts shaking” (IV.Grandmother.1. 168).

Another example is a girl, who is two years and three months of age, and she is able to eat more often, and larger portions.

“R: If she is not hungry, does she still eat?

GM: Yes, if I feed her rice, she doesn't know when she is full. I have to stop feeding her.

R: She has never declined the food you offer her?

GM: Never.

R: You mean if you feed her more, she can eat more?

GM: Yes she can.

M: Sometimes, she eats till she throws up (a bit) because she has overeaten. For her, she can eat any time I feed her...9 PM...10 PM she has never felt full (IV.Grandmother and Mother.5.105).

Food choices or food preferences are one of the factors that encourage caretakers and family member to feed more. The milestones reached by children six months to three years of age develop very quickly. Children are constantly trying new things in their environment, including new foods. Children at six months are able to hold an object in their hands, and beginning to sprout teeth. When they are at nine months, they can swap small items from one hand to the other. At a year and a half they are able to correctly use a spoon. At two and a half years, they can feed themselves with a spoon, and at three years, they can eat with a spoon and fork. A child's teeth also commonly complete sprouting at three years of age (Parenting and Child Health, 2013).

The developments mentioned above indicate that a child six months to three years of age, is gradually ready to try a variety of new foods (solid food). The research findings illustrate that caretakers started feeding supplementary liquid food and gradually switched to more solid food, as the child got older. They also started trying a variety of new foods. Some children in this research not only like eating, but they also like trying new foods, and they are able to eat more of their favorites. When caretakers or family members notice which foods are favorites for a child, they tend to feed these foods more often. This encourages a child to eat more food, and some of these favorite foods are higher in calories. The following example interview shows a girl, who is one year and

nine months of age who is able to eat larger portions of her favorite foods.

“R: How large are the portions for her three regular meals?

GM: One full rice ladle, if she likes it.

F: If she really likes it, she will ask for more.

R: Do you cook her favorite food often?

GM: Yes, I do.

R: What are her favorite items?

F: Phalo and TomJapchai.

GM: She must eat Phalo.

R: Does she eat a lot?

GM: She also likes fried sausage when it is crispy and tasty.

M: She likes Phalo soup and I mash some Phalo egg on the rice (Phalo is pork stewed in soy sauce, together with boiled eggs, and fried tofu).

R: If you cook Phalo, does she eat two rice ladles (two cups)?

GM: Yes, a lot. Another favorite item is fried chicken and sticky rice”

(IV.Family.11.124).

In addition, another one of the temperament characteristics of encouraged feeding is the Signaling/Requesting that a child makes for food. Children aged six months to three years start responding by making sounds to show displeasure and enjoyment. They can copy sounds and gestures of others, and they can use their fingers to point at things around them. They try to copy words people say, at three years, and they can say sentences with two to four words with names of familiar things (Centers for Disease Control and Prevention, 2015).

The findings demonstrate that children in this research study, who love to eat, use various strategies/signals to get food from caretakers/family members. For example, they open their mouths, point their finger, and bring an empty bottle to caretakers. Many caretakers stated that a temper tantrum also had appeared as a strong signal to get food. Temper tantrums are most common in children ages one to four years. Temper tantrums are an act to get attention, or express their anger and frustration, mostly demonstrated by crying, yelling and swing their arms and legs (WebMD, 2015). In this research some

children showed tantrums by crying out loudly, or sitting immediately on the floor and swinging their arms. Some of them throw an empty bottle of milk on the floor.

From these actions, caretakers and family members feel forced to inevitably give a child extra food. Children can receive extra food, as they get older, because they can clearly communicate/demand food. The following interview example shows how a boy who is one year and five months of age begs for his food. According to his milestone (Parenting and Child Health, 2013), he is walking well for his age, is using a spoon correctly, and has learned to say one word clearly.

“R: Has he ever asked food from you?

M: Yes, he does. When he sees me eat, he brings his own dish and spoon, and sits with me to eat.

R: Really, he brings his own dish and spoon for food?

M: Yes, he brings them by himself. He is very smart.

R: Do you share food with him?

M: Yes.

R: Does he ask food from other family members?

M: Yes, he does. Sometimes he sees grandma eating and he will go and ask her for food.

R: How does he ask for food?

M: He acts like he wants to eat and I will know right away. Most of the time he brings his own dish and spoon, as a signal that he wants to eat. I usually share a bit food with him” (IV.Mother.9.91).

Another example shown below is an eight-month old boy who uses tantrums to demand food.

“R: Does anyone in the family spoil him?

M: Yes, they do, because he has tantrums.

R: What do you mean by tantrums?

M: If he wants something, he will not give up. He cries until he gets what he wants. He is pretty demanding” (IV.Mother.12.127).

The findings and examples above demonstrate children’s temperament characteristics including their eating behaviors, food choices/preferences, and demanding (signaling/begging) for food, that influence or encourage caretakers and family members

to feed their child larger portions of food, and more often.

Environment

Another property of the Encouraged Feeding category is environment (inside/outside influences). They play an important role in encouraging a child to receive more food. Inside influence in this research is defined as the environment inside the home, such as night feeding, refrigerator access, and family members sharing food. Outside influences, on the other hand, are defined as the environment outside of the home, such as available merchant food and neighbors/stranger feeding.

Inside Influences. An inside influence encourages a child to obtain more food, and in this research is composed of nighttime feeding, refrigerator access, and family members sharing food. The findings in this research study suggest that children are encouraged to eat more during the nighttime. During the nighttime, caretakers tend to feed formula quicker because they want a child to continue sleeping. Caretakers get tired from their daily routines, are sleepy, and they have to work the next day. They are so tired or sleepy, that they find it hard to deviate a child's attention away from feeding, and want to avoid the child fully awakening. For example, one mother said "It is difficult for a child to get back to sleep if she is fully awake" (IV.Mother.11.287).

Most caretakers give a child milk right away before he/she starts crying. Some caretakers prepare formula milk earlier, right after a child goes to bed, in order to feed them as soon as they wake up during the night. The more often children wake up, the more feeding they get. The following example is a girl, who is one year and nine months of age, who usually receives night feeding when she wakes up.

"M: Actually, the doctor wants me to skip feedings at night. She wants my child to be fed only before bed, and to sleep through the night, but I cannot do it.

F: Because she wakes up during the night.
R: Have you ever tried not to feed her when she wakes up?
F: Not really, we always feed her.
R: So never?
F: Never.
M: She cries.
F: If she cries we will not be able to sleep. We have to work the next day”
(IV.Parents.11. 93).

The extended family type is another inside influence that encourages feeding more often. According to Thai culture, family is normally central to Thai life. They also like living together as an extended family. Eleven out of thirteen of the families in this research study are extended families. The extended family is composed of several generations, all living in one household, or they are under several roofs within the same compound (Countries and Their Cultures, 2015). Children are taught to show respect for their parents and elder family members, and they maintain close ties and relationships to each other, throughout adulthood. In Bangkok, newly married couples will set up their own households. Often grandparents, cousins, aunts, and uncles will all live in the same household and may care for children in the family (Reach to Teach Teaching Aventures Abroad, 2015).

The finding in this research shows that the extended family is composed of grandparents and other family members living in the same household, and some of them live under a different roof in the same compound. In this context, a child has more chances to acquire extra food from other family members by sharing. Even though caretakers sometimes try to restrict the amount of food a child gets, others in the family, in particular permissive family members, still share their food with the child. The findings also demonstrate that some family members are indulging a child, and the child

knows whom to approach. The following interview example is a girl who is two years and eight months of age, who will receive food from family members who are consistently sharing their food.

“R: Does she eat solid food regularly?

M: Yes, she does. She eats rice and treats. She does not eat bread often, but yesterday she ate a sandwich. Sometimes she gets food from Seven Eleven, but rarely eats unhealthy food. It really depends, if she goes with any family members, she always comes back with some foods.

R: Do you live with other relatives?

M: Yes, there are three other family relatives dwellings on this property.

R: Do they have any children?

M: Yes, one grandchild.

R: Is she the same age?

M: No, she is ten years old.

R: Oh, is she older than your child?

M: Yes, she is in the 4th grade.

R: What happen if other family members are having a meal?

M: She will run to them, and will sit and eat.

R: Does this happen every day?

M: It depends, but she always runs to and joins them.

R: How about the other relatives?

M: She always joins them as well.

R: Do they give her food too?

M: Yes, because my child is their grandchild, but I keep telling her not to beg for food.

R: Does she listen to you?

M: She will eat anyway, but usually a small amount.

R: Before she gained weight, did you spoil her?

M: Not really, but others in the family do, mainly her grandmother and her aunt.

R: Is her aunt number one?

M: Yes her aunt and uncle.

R: Who is number two?

M: Grandma” (IV.Mother.7.390).

Another inside influence that encourages overfeeding would be the easy access to the refrigerator. This research study shows that older children are able to get extra food from the refrigerator if they can open it. Normally, all participants in Bangkok have a refrigerator in their home, not just for healthy food, but also unhealthy drinks/treats.

Children over two years of age are trying new varieties of foods, and they can identify the

different types of food in the refrigerator. They are very intuitive and notice which foods others are getting from the refrigerator. Children will often open the refrigerator, and signal/demand which food they want. The following example shows how a girl who is a year and nine months old, has access to the refrigerator.

“GM: If she sees soda in the refrigerator, she will cry out for it. If she does not see it, it is ok. So I have to hide it from her.

R: Does this mean there was soda in the refrigerator previously?

GM: Yes, so that’s why I have to hide it from her. If she does not see any food or drink in the refrigerator, she will not cry for it” (IV.Grandmother.11.191).

The examples above demonstrate how inside influences affect caretakers and family members, and encourage them to feed their child more often. Night feeding, food access, and family food sharing are examples of inside influences. The children who are older, and are able to better communicate their needs/wants; tend to receive more food than younger children.

Outside Influences. Outside influences are another way for a child to obtain more food. In this research, outside influences are composed of neighbors offering food, and mobile food merchants. Some families live in condos, apartments or their own house, and their children may get additional food/snacks from neighbors. When they bring a child out to play, neighbors sometimes greet children with a small amount of food. It’s not polite in Thai culture to decline food that people offer, so this may be contributing to weight gain in young children.

One mother said that her child was receiving food every time she brought her child out for a walk, mainly from neighbors. The child’s doctor wants her to decline these offers of food, because her child is slowly becoming overweight, but she feels like she can’t do that. She stated: “You know what I am talking about, right? It is rude to do

that, because I know my neighbors love my child” (IV.Mother.6.285). Therefore, she takes her child out less often, and her father is now doing so. He has resorted to taking the child to a nearby park, in order to avoid the neighbors offering the child any food.

Another example is one mother, who lives in a condo, and she always brings her daughter to the park; she expressed “My child knows where she can get food. She always runs to the food cart in the park, I sometimes buy her food, or someone may offer her food” (IV.Mother.5.291).

Some families live in their own homes; these children are able to obtain extra food from mobile food merchants. The mobile food merchant utilize a three-wheel motorcycle containing a variety of food such as Thai desserts, different foods available on a stick, ice cream, soda, and other sweetened drinks. They normally travel from village to village daily to sell their food and drinks. They have a unique horn which signals to others what types of food they are selling. The horn will beep as they enter the village; customers usually recognize it right away and will go out to buy food.

Older children are able to recognize the different horns referring to different types of food. They come out and wave their hands when they hear the unique horn, which refers to their favorite food. Caretakers are in most cases buying these foods and drinks for these older children. The following example shows a girl who is one year and seven months of age; she receives food from mobile food merchants on a regular basis.

“GM: Undoubtedly, she will wave her hand when the ice cream merchant comes.

R: Do you end up buy her ice cream?

GM: Yes, it costs 5 baht per each portion.

R: Does this happen every day?

GM: Not really, but the food merchant comes every day. I, sometimes, buy some for her.

R: Is she ok if you do not buy her any ice cream?

GM: No, she cries, but she will stop eventually.

R: Oh, she can get extra food sometimes. Does this mean there are many available food merchants who come to your town?

GM: Yes, many different merchants, and the sausage merchant will come in the evening.

R: All right, it seems many types of food are sold here. Do they target the children?

GM: Yes, many children call on them. So they keep coming constantly.

R: If other merchants like sausage merchants come, does she signal them?

GM: Yes, when it comes, she quickly runs up to the vehicle.

R: Do you buy any sausage for her?

GM: I normally don't buy it for her, but others (family/neighbors) will buy some, and they will share with her.

M: If she is with her grandpa, does he buy any for her?

GM: Yes, he does, but he likes to spoil her. He thinks she will get too thin if she doesn't eat when she is hungry" (IV.Grandmother.3.542).

The examples above demonstrate outside influence, such as food sharing from neighbors, or mobile food merchants, and how this contributes to a child's excess food intake. This encourages a child to receive additional food/snacks than they would otherwise receive.

The level (dimension) of intensity and frequency of Encouraged Feeding that comes from child's temperament characteristics and environment exposure (inside/outside influences) varies from case to case. The level of intensity associated with encouraged feeding, ranges from weak to strong. It depends on a child's age and his/her characteristics. The level of intensity is stronger as a child gets older. He/she is easily able to communicate what kinds of food are desired. They can grab food on their own, use a spoon to feed themselves, and wave for a mobile food merchant to get food. An indulgent child will use strong signals, like tantrums, to demand food from others. It also depends on what type of food they really like, or want. The intensity of the signal a child uses will be stronger when it's his/her favorite food.

The frequency of encouraged feeding depends on how often a child reaches or is

exposed to food. It ranges from a lower to higher frequency. A child who lives in an environment where an abundance of food is available, will signal/demand more often to get food. For example, a child will cry for food if he/she sees it in a refrigerator. Frequency of encouraged feeding is higher with an extended family, because there are more family members to share food.

Family Positive Perception (FPP) Category

Family Positive Perception (FPP) category plays a supporting role in overfeeding during regular meals, and additional food/snacks during the day. Family positive perception in this research is defined as caretakers or family members' perception, being their belief or attitude toward a child's feeding and growing, in a positive way. With these perceptions eventually leading to a child being overfed. For example, they believe formula increases height, that brain growth needs more nutrition, that they will get skinnier with age, and that the child is not too overweight.

All caretakers admit that their child is gaining weight, and they pretty much understand the negative consequences of this, but they still think it is not the right time to seriously limit a child's food consumption. The following is an example of a mother of a girl, who is two years and three months of age, with mild obesity. She hesitates to limit feeding because of concerns about her child's nutritional needs.

“R: Is her dad afraid she is going to be too thin?

M: Both of us are afraid of this; so we keep feeding her more. I admit that she is gaining more weight because of our actions. I keep feeding her because I am afraid of starving her” (IV.Parents.5. 327).

“M: If I am afraid to limit my child's diet, I am afraid of (pause)... she is still young and she might not get enough nutrition for her developing body. I think it is not a good idea to seriously restrict her diet right now. I have been feeding her this way since she was young.

F: Good food benefits her brain” (IV.Parents.5. 411)

“R: Does this mean you accept that your child is getting overweight?

M: I know, but I am not seriously worried, because her family has no history of being too overweight. Some of her family members are chubby, but not too overweight. I know she is gaining more weight because of the way I am raising her; it is not a genetic issue” (IV.Parents.5.417).

Following example is a girl, who is two years and eight months of age, with moderate obesity. Her mom is confident that her child will get thinner when she goes to school.

“M: I think by the time she goes to school she will be taller. When most children go to school they will eat more regularly.

R: Does this mean basically you are concerned about her weight, but you believe if she goes to school she would be...

M: Taller . . . because she would eat and sleep on a more regular schedule, and no one will spoil her. Her going to school should be helpful, as I said kids usually are taller by the time they go to school, and eat regular meals when they are there” (IV.Mother.7.514).

The level (dimensions) of FPP varies from case to case, and ranges from a lower to higher level. It depends on the caretakers’/family’s perception of the child’s weight status, and how strong their attitudes are toward feeding and healthy growing. The highest level of positive perception is thinking that their child is not overweight. Some families have high positive perceptions because their child has been overweight since birth, and they don’t perceive their child to be overweight. One mother said: “ My child’s weight does not seem to be increasing too much compared to her birth weight. Her birth weight was higher than normal, but we weren’t concerned” (IV.Mother.8.493).

Some families believe the child is not overweight when compare to the height. On the other hand, the lowest level of positive perception is a child who is definitely overweight, and desperately needs to control her/his weight. One family is really worried about their child’s weight, and is seriously trying to control feeding because the child has physical health problems. The following are examples of the FPP levels, from lowest to the highest. Example one is a girl, who is nine months old and overweight, but her

mother is not worried about her child's weight status, because her daughter was larger than normal weight at birth.

“R: Are you worried about her weight?

M: Not really, but I know she is gaining more weight. Yesterday, I held her; I can feel how heavy she is getting.

R: Are you worried about this?

M: Not really, but yesterday I read a medicine label, and my child's weight is that of a 2-3 year old child (my child is only a 11 months old... laughing). My mom said: 'don't feed her too much.'

R: Do you limit her feeding? Or still the same.

M: No, I do not limit anything. She also eats more of her favorite food.

R: What is the reason you are not taking any action on this?

M: She has not gained much weight when you compare it to the weight when she was born.

R: Oh I see. She was already overweight since birth?

M: Yes, that is why now she appears to be overweight. Actually, she has not gained much weight since birth.

R: So this is the reason why you think your child is not overweight?

M: Exactly” (IV.Mother.8.486).

Example two is a boy, who is two years and two months of age, with mild obesity. His mother is not too worried about his weight because he seems active and has normal activities like other children.

“R: Do you think like grandma that your child will be thinner if he goes to school?

M: I personally believe my child is not overweight. I am not sure if I take her side on this. I think he is in good shape; he doesn't have any problems when he is moving or running. He moves fast; so I think he is not overweight. If he wants to eat anything I will let him eat it.

R: Does your husband think like you?

M: Yes, he also thinks our child is not overweight” (IV.Mother.13.230).

Example three is a boy, who is a year and five months old, with severe obesity. His mother is worried about his weight because he appears to have physical problems.

“R: Did you follow the doctor's advice?

M: (shake her head) only recently, since he was about a year old; I started to notice his bowlegs, and I felt I had to do something.

R: Because of this, did you feel you had to do something about his weight?

M: Yes, and I also notice it was difficult for him to sit and stand up.

R: So this is why you now want to do something about his weight?
M: Yes” (IV.Mother.6.161).

The examples above demonstrate the level of Family Positive Perception on their child’s weight status, and their viewpoints on feeding and a child’s growth needs. The intensity of the perceptions varies case by case and depends on their view of their child’s appearance, their beliefs, and past experiences.

Weight Gain (WG) Category

Weight Gain (WG) category in this research refers to the increased weight a child accrues from Child-Feeding Practices. Even though it is difficult to measure exact weight gain every day, weight is recorded from time to time in the patient’s vaccine book, or the child’s health records when the caretakers and child visit the hospital. In this research study, the weight-gaining record is calculated as a weight status (dimensions of weight gain), using the weight for height based on the recommendations of the Pediatric Endocrine Society of Thailand Growth Chart. Weight status can be identified by four categories. They are overweight, mild obesity, moderate obesity, and severe obesity. A child’s weight status can fluctuate back and forth between these four categories, as long as he/she is still overweight. The following is one example of a weight gaining record based on the Pediatric Endocrine Society of Thailand Growth Chart.

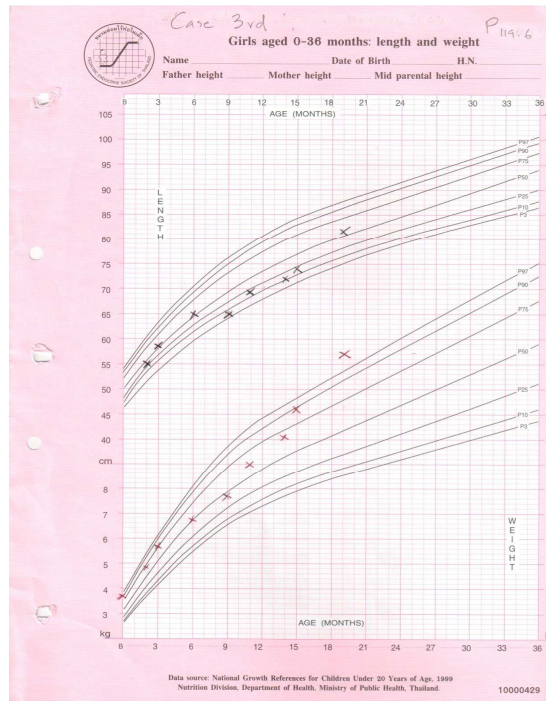


Figure 1: Example of Growth Chart (RH.3).

According to the growth chart above, the child who is 19 months old should weigh 11 kg. based on weight for height, but she weighs 13.5 kg. According to weight percentile calculation ($\text{actual weight}/\text{ideal weight} \times 100$), her weight percentile is $(13.5/11 \times 100) 122.7$, which means her weight status is mild obesity. The following is a weight status categorized by weight percentile.

100-120 percentile is overweight

120-140 percentile is mild obesity

140-160 percentile is moderate obesity

160-200 percentile is severe obesity

More than 200 percentile is morbid obesity (Jetsrisuparb, 2015).

The children's weight status was reviewed from birth to the date that caretakers were approached to participate in this research study. The findings demonstrate that the

date caretakers participated in the research study, three of the children were overweight, five of them were showing mild obesity, four of them were showing moderate obesity, and only one demonstrated severe obesity.

Observational/Interventional Triggers (OIT) Category

Observational/Interventional Triggers (OIT) category in this research refers to any signal that creates a response/reaction from a caretaker or family member that their child is becoming overweight. The findings indicate that a caretaker or family member is being triggered by many different signals that a child is overweight. In other words OIT is composed of three properties, observations from caretakers and family members, innocent greetings about a child's weight from neighbors/strangers, and suggestions from health care providers.

Caretakers or family members, sometimes, work as a trigger signaling themselves that a child is becoming overweight. They notice that a child is gaining more weight when they hold him/her. One mother said: "I know she is gaining more weight. Yesterday, I held her, and I could immediately feel she was heavier" (IV.Mother.8.486). Some caretakers know that a child is getting bigger from observations, visually, fit of clothing, and physical health problems. Another mother described: "When I observe his larger arms and legs I knew right away that he is bigger than he should be. I am afraid that he will not be able to walk" (IV.Mother.12.198).

Another mother admitted that by observing tighter clothes on her child, she knew that her child was getting bigger. She stated: "These clothes are too tight on him; his grandma wanted me to buy a larger size for him, but actually I've already bought XL size for his age. I don't know what to do" (IV.Mother.2.921). Peer comparison is another

signal leading caretakers or family members to think about their child's weight. One mother said she knows that her child is getting bigger when she compares him with his brother at the same age. She said "At one year and seven months, his brother was 13.4 kg., but he is 16 kg. at the same age" (IV.Mother.4.120).

Greetings from neighbors/strangers have proven to be an important trigger, as these triggers occur more often, as a result caretakers or family members become more aware of their child's weight issues. In the past, Thai culture would perceive chubby children as healthy children. They would always get more than enough food, they were perceived as strong and cute. Recently, we know better than this, from Internet, Television, and books. Obesity can cause various chronic illnesses and disabilities.

However, Thai society still loves chubbier children, and they promote this as being healthier. Even though greetings (Innocent, but negative weight statements) by neighbors/strangers should be a trigger to caretakers or family members, they are instead being taken in a positive way. The following example is a girl, who is one year and five months old, who receives innocent greetings from neighbors.

"R: Before you met the doctor, had you already known that your child was getting bigger?

M: Yes, others have indicated this when greeting him.

R: Who?

M: Our neighbors, when they pass by, they always mention his size.

R: What exactly do they say?

M: They said 'Hi chubby boy, you are so cute' " (IV.Mother.9.179).

"GM: People who live along this road, really like him.

R: Because he is chubby?

GM: Yes, plus he is always smiling" (IV.Grandmother.9.195).

It appears a child's physical health problems are the most powerful signal caretakers and family members receive that a child is becoming overweight. The physical health problems in this research refer to any physical health problems that come

from excess weight gain. One specific case in this research study is a boy who is one year and five months, had shown the consequence of being seriously overweight, the child's legs appeared bowlegged. The family members admitted that it was a very serious trigger to them, and that they needed to intervene. The following is an example of interview.

“R: When did the doctor begin mentioning his weight problem?

M: Since he was about two months old. I brought him to the hospital for his first vaccine visit, but the health care providers thought he was actually four months old (laughing).

R: What did the doctor say at that time?

M: She said that I should decrease formula feeding.

R: After this visit, did the doctor say the same thing?

M: Every time.

R: Every time you visited the hospital?

M: Yes.

R: Have you been, and are you currently following the doctor's advice.

M: (Shakes her head) only recently, starting when my child had turned one year old; I had begun noticing his bowlegs. I could not bear it anymore” (IV.Mother.6.136).

Another important trigger is Health Care Providers. Health care providers play a crucial role in informing caretakers and family members of their child's weight status. Based on interviews and patients records, all caretakers are recommended by health care providers to limit formula and food. Caretakers who visit the Well Childcare Clinic at Ramathibodi Hospital, who do so according to their child's vaccine schedule, are receiving regular comments about their child being overweight. However, some caretakers are occasionally receiving advice if they come to Ramathibodi hospital for acute illnesses.

Other health care services, in particular, primary health care may or may not give advice or pay much attention to the weight problem. The following example demonstrates a caretaker of a two years and two month old boy, who received advice

from a health care provider.

“R: What advice did the doctor give you?

M: About what?

R: About his weight.

M: Oh, his doctor wants me to control his feeding” (13. 157).

“R: When your child got his vaccine during his primary care service visit, has any health care provider advised you about your child’s weight status?

M: It will be a year before his next vaccine appointment. Either way, they have already said that my child is becoming overweight” (IV.Mother.13.167).

The intensity and frequency (dimensions) of the triggers is varied. The intensity of triggers depends on how strong they signal a caretaker or family members to become concerned about their child’s weight problem. The triggers can vary from a weaker to stronger signal. For example, a child’s physical health problems seem to be the strongest trigger to a caretaker or family members; while a greeting from strangers or neighbors seem to be a weaker trigger. The frequency of these triggers varies from less likely, to more often. Caretakers, who bring their children to a routine vaccine visit at Ramathibodi hospital, for example, are more likely to receive signals from their health care providers, than they are from their primary health care services.

Controlled Feeding (CF) Category

Controlled Feeding (CF) category in this research study refers to a variety of strategies that a caretaker or family members apply to Child-Feeding Practice (CFP) for controlling a child’s weight. Most caretakers and family members did not realize that their child was too overweight, but they didn’t want their child to gain more weight. Various strategies were implemented to reduce/prevent the children from gaining more weight. Those strategies come from diverse resources such as health care providers, friends/neighbors, family advice, or even their own experience.

Some caretakers try to deviate a child’s attention away from food. For example,

they try not to feed their child formula after a meal, unless their child is still hungry. They may also deviate their child's attention, by patting their butt, or by playing with them. With these different techniques, a caretaker or family member can sometimes skip extra feeding, or extend feeding to a later time. One mother, whose child is one year and seven months, tries to deviate attention away from her child to extend his meal.

“M: If he wants to eat, he will run to the formula basket, pointing and making a sound like ‘ua ua’. I ask him ‘do you want to eat?’ and I know he wants to eat.

R: If he does not point, will you bring him to do other activities?

M: Yes, I will usually hurry to bring him outside the house and play with him. If I am around on weekends, the extra feeding will be decreased.

R: Do you decrease volume, or feed less often?

M: I feed him less often” (IV.Mother.2.434).

Small portions are a strategy frequently use by a caretaker or family member to control a child's weight. This research study has revealed that all the children were able to eat larger portions; some caretakers or family members try to limit the child's food intake by feeding the child smaller portions of food, and sharing less. One family (who has a two year old girl) stated they try to limit the amount of food by taking a bite of food before sharing it with their child (IV.parents.6). When I almost finished interviewing the family, I observed the mobile food merchant coming; and the child cried out for Yakult. Her dad bought her a bottle, and before he gave it to her, he drank some of it (OV.6). The following is another example of one family trying to limit feeding to their child who is one year and five months.

“R: Did he eat that entire bowl?

M: No no no...not really.

GM: We give him only three spoonfuls, which is less than before.

R: Was it a lot previously?

M: Yes, it was.

GM: They (other family members) were also feeding him. I am sick of the way they feed him.

R: How much were they feeding him?

M: If he did not stop eating, we would not stop feeding.
R: So, he ate until they stopped feeding him. Currently, does he stop eating on his own?
M,GM: No, we force him to stop eating.
GM: I said to him 'no more food'; so he stops.
R: Do you hide food?
GM: No...we just give limit what we have been giving him.
R: Does he cry?
GM: No, when we say 'no more food', that means no more food"
(IV.Grandmother.mother.6.227).

Some caretakers who have a child more than a year old, will usually get advice from healthcare providers to decrease the amount of formula at nighttime, or stop altogether. Most caretakers would rather try diluting the formula, or decrease the amount, rather than quite. They said it is difficult for them to stop feeding at nighttime, because the child wakes up and cries. They are hoping, that by diluting the concentration of formula, they can help control the child's weight. For example, one family would mix the formula powder and water at a ratio of 4:8, instead of 8:8 (IV.Mother.4). The following is an example of a girl, who is one year and seven months. Her grandmother tries to limit formula feeding.

"R: Is she ok if you give her only 4 oz. of formula?
GM: Yes she is. Sometimes, it is only 2 oz.
R: Why are you giving her different amounts?
GM: It depends, sometimes I give her 2 oz., sometimes 4 oz. I try to decrease her formula based on the doctor's suggestion. I am afraid she is becoming overweight.
R: What did the doctor say?
GM: She said I should not feed my granddaughter at 4AM.
R: She does not want you to feed her at 4AM?
GM: Yes, she said I should not.
R: What happens if she wakes up and cries for formula?
GM:I give her a little.
R: How much? 2 oz.?
GM: Yes, 2 oz.
R: Have you ever tried not to feed her?
M: Never, she would cry a lot. I have never won this battle"
(IV.Grandmother.Mother.3.113).

The following example is a girl, who is two years and eight months old. Her mother tries to limit feeding by diluting the concentration of her milk/formula.

“R: How much formula do you feed her?

M: five level spoons of formula powder, and eight ounces of water.

R: Why are you diluting it so much?

M: She already eats a lot, and in fact she eats everything. The doctor says she is overweight and I should dilute the formula, so I am diluting the formula” (IV.Mother.7.217).

An important strategy used to control a child’s feeding is hiding food when family members are eating. An overweight child always seems to get extra food from family members. Therefore, when caretakers or family members want to control a child’s weight, they tend to try hiding food when they are eating. I observed one child while I was interviewing, the child’s cousin started eating Durian (high calorie fruit), and the child ran instantly to eat with her. Her mom said “Please go eat that behind the house” (OV.3). Her cousin ran right away to eat behind the house and the child did not follow her. The following is another example of a girl, who is two years and eight months old. Her mother tries hiding while she is eating, so her daughter will not ask for food.

“R: She will eat with you again at 8 PM

M: It depends; currently I try to hide while I am eating. When I get home I hurry to take a bath, eat really fast, or if I am not hungry, I will just avoid eating.

R: Does she go looking for you?

M: Yes, she does, and she usually asks me: ‘what are you eating?’ and I will hurry up and eat it faster.

R: She doesn’t do anything?

M: No, because all the food is gone too fast, she doesn’t even know what I ate” (IV.Mother.7. 284).

Most caretakers are not only trying to limit feeding, but they are also trying to limit junk food or unhealthy food from the child’s diet. Even though some caretakers are not too worried about a child’s weight status, they try to serve the child healthier foods.

The following example shows a girl, who is one year and nine months, with mild obesity. Her family tries to provide healthier foods for her, and avoid unhealthy food/snacks.

“M: As my husband and my mother have told me, it is natural to be a little heavier as a child. When I was younger, I was overweight too, but I got thinner as I grew up. I think she will follow in my footsteps, as she gets older and taller, she will also get thinner.

R: So that’s why you are not too worried about her weight?

M: Yes, but I know sweetened foods and chips are unhealthy for her; I have told my mother to limit these foods. I also try to stop her from eating these types of foods.

GM: If she sees soda in the refrigerator, she will cry for it. If she doesn’t see anything, then she is ok” (IV.Grandmother.Mother.11.188).

Even though caretakers and family members perceive their child is not too overweight, they try to limit their child’s feeding. They tend to control feeding by limiting additional foods and snacks, rather than limiting formula and supplementary/solid foods. They also try to limit excessive formula feeding, more so during nighttime feeding.

The level (dimension) of intensity and consistency of Controlled Feeding varies from case to case. The level of intensity of Controlled Feeding ranges from doing nothing to being very strict. Some caretakers do nothing to control their child’s feeding, but some caretakers take serious control of their child’s eating habits. The consistency of Controlled Feeding ranges from a short duration, to longer periods of time. Some caretakers limit food for a very short time and stop much sooner, which doesn’t produce a very positive outcome. While some caretakers continue for a much longer period of time and ultimately see their child get thinner. The level of intensity and consistency seem to be directly related to each other. Caretakers who seriously control feeding are usually more consistent than caretakers who do nothing for Controlled Feeding.

Relationships among Categories as a Theoretical Model

There are six categories (Figure 2) in the research findings that contributed to, and were involved in, a child becoming overweight. There is Child-Feeding Practices (CFP) as a core category, the others are Encouraged Feeding (EF), Family Positive Perception (FPP), Weight gain (WG), Observational/ Interventional Triggers (OIT), and Controlled Feeding (CF).

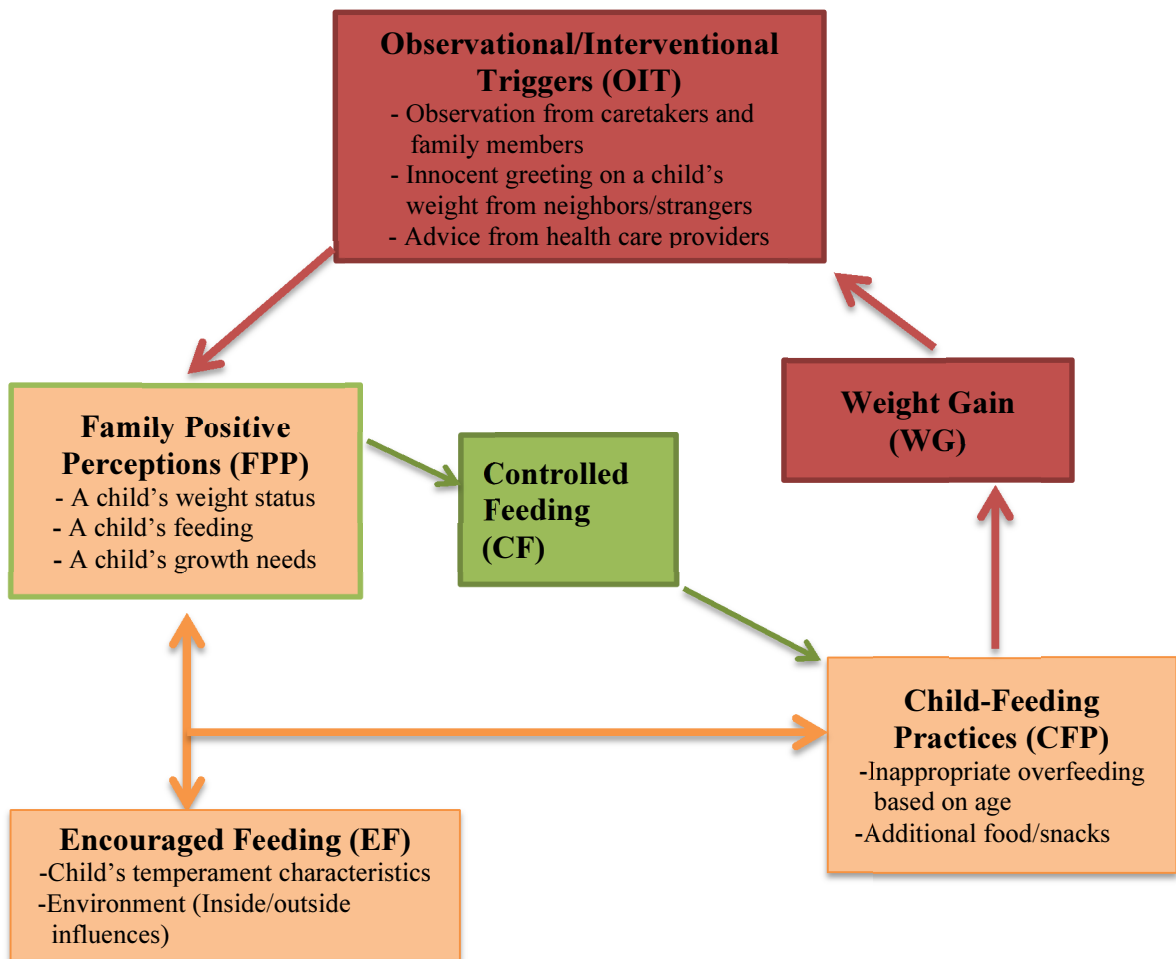


Figure 2: Model of Sustaining Weight Gain in Young Children (SWGYC)
*Yellow is caution, Red is warning, Green is improving

Each category is related to each other as the framework above illustrates. The beginning stage starts with CFP category. Child-Feeding Practice comes from the interaction between EF category and FPP category. The level of CFP depends on the level of EF and FPP. The findings show that in the beginning stage, the level of EF and FPP are typically high, consequently they lead to higher levels of CFP.

As Encouraged Feeding increases from child's temperament (tantrums, clear verbal communication), or environment (frequent mobile food merchants, increased family member food sharing), a higher level of EF begins to appear. A higher level of FPP is defined as a stronger family positive perception; this leads to overfeeding and increased weight gain. For example, the strong belief that a child should get enough food to grow, will grow thinner with age, or based on diet/schedule become skinnier at school. As the level of EF and FPP increase, the level of CFP also increases. A higher level of CFP illustrates that children are over consuming inappropriate food based on age, including nighttime feedings, and additional food/snacks.

A higher sustained level of CFP results in increased Weight Gain (WG). Increased WG occurs gradually even though a caretaker or family member may not actually recognize it. It will appear objectively when a child is weighed on a scale. When WG appears to increase, it also increases the level and frequency of Observational/Interventional Triggers (OIT). This means when a child becomes more overweight, that triggers are sending stronger signals, and more often. The higher level of OIT comes from, stronger comments/suggestions by health care providers, neighbors/strangers, and caretakers or family members observations. The higher frequency of OIT is defined by these comments or suggestions, based on how often they are heard from health care

providers/neighbors/strangers, and by how often caretakers or family members observe weight related issues.

The increasing levels and frequency of OIT affect FPP in different ways.

Stronger OIT will lead to a lower level of FPP. This also means that if the level of OIT is too low, the level of FPP can be higher, or does not change at all. For example, if a lower level of OIT like that of a greeting from a neighbor or stranger occurs, FPP will always be higher or the same, but never lower. This means that greetings from a neighbor or stranger may not trigger a caretaker or family member to realize that they have to do something about their child's weight.

On the other hand, if the level of OIT is stronger, it will always lead to a lower level of FPP. For example, the stronger OIT such as the combination of many stronger triggers (neighbor/stranger greetings, health care provider advice), will lead to a lower level of FPP. This means if everyone around a caretaker or family members keeps suggesting the child is overweight, a caretaker or family member may become worried and think about implementing a diet/plan for their child's weight reduction. If another strong trigger, like a physical health problem appears; it will definitely lower FPP. Once a caretaker or family member perceives a child is becoming overweight, by observing physical health problems, they immediately take action to control their child's weight.

If the FPP changes by getting lower, Controlled Feeding (CF) strategies being applied to CFP. In other words, a lower level of FPP appears, and a higher level of CF is implemented to CFP. For example, when a caretaker or family member starts worrying about a child's weight status, they will do something to control or limit feeding.

However, if the level of FPP does not change, the CF may/may not be added to CFP. For

example, if a caretaker or family member does not believe the child is overweight, they may take very limited steps to control the child's weight, or they may do nothing.

The new adjusted CFP pattern will begin by adding CF. The adjusted CFP level changes direct to that of CF. If the level of CF is higher and more consistent, the level of adjusted CFP will change in a positive way. That means various strategies of controlled feeding will be strictly implemented and more consistent (to CFP), if a child is considered overweight. On the other hand, if CF is not higher and more consistent, then the original level of CFP stays the same. That means a child will be fed in the same pattern and continue gaining weight. The categories in the diagram continually run in a circular pattern, and the levels of each category are dynamically fluctuating, thus affecting each other.

Social Processes that Influence a Child being Overweight

The findings of this research study illustrate that six categories contributed to and are involved in the process of a child becoming overweight. These categories interact and relate to each other to develop a model demonstrating a social process that influence a child being overweight. The process starts with healthy children who are born normal or overweight before they go home with their mothers. The temperament of these children were similar (Encouraged Feeding, EF). They were able to eat a larger amount of food, enjoyed eating, were hungry often, never seemed to feel full (low levels of self regulation), some children refused supplementary/solid food and sustained an excessive amount of formula intake.

As they continue to grow older, they can more effectively communicate. They can receive more food from family members around them or neighbors. They learn how

to receive food from these people, including learning who will give them food (permissive family members) and when, and who will not. They also learn how to gain access to extra food, such as recognizing the sound of mobile food merchants, and opening the refrigerator themselves (EF).

Parents or caretakers (mother/family members) usually raise the child by responding and indulging his/her needs including feeding (Child-Feeding Practices, CFP). They give a child food when they think he/she is hungry, just before bedtime/nap, to get them to sleep again after waking up late at night, when they think their child hasn't eaten enough, and when a child signals/demands food. They don't realize that their child is gradually being overfed based on the recommended diet for their child's age, and the inclusion of additional food/snacks.

Most caretakers and family members have a positive perception (FPP) of their child's feeding and growth needs. They perceive their child is not too overweight, they insist that a child is too young to seriously restrict feeding, and that their child needs nutrition to grow. They also believe that their child will get thinner when he/she goes to school.

The interaction between a child's temperament (likes/enjoys eating) and caretakers or family members, who have a positive perception and keep feeding, contributes to a child receiving more food intake than his/her body needs (Weight Gain, WG). When a child's weight is increasing, the caretakers gradually realize by observing, from innocent greetings about a child's weight from neighbors/strangers, and by suggestions/advice from health care providers. Even though caretakers and family members perceive that their child is not too overweight, they don't want their child to

gain more weight, they start controlling/limiting feeding (CF).

Various strategies of CF are used to try to decrease/prevent the child's weight gain. Mostly, they focus on controlling non-nutritive feeding (additional food/snacks) and excessive formula. For example, caretakers are diluting the formula/milk, decreasing the size of food portions, hiding food/snacks, and they also hide from the children while eating their own meals or snacks. Even though in most cases some CF strategies were implemented, they were not intense and consistent enough to adjust CFP patterns by very much. Consequently, a child still appears to sustain their weight gain.

Summary

This research study is a qualitative approach; aimed at exploring basic social processes that influence a child being overweight, by utilizing grounded theory as a methodology. Thirteen children and their families participated in this research. All the children in this research study are seven months to three years age, and their weight status ranges from overweight to severely obese. All families lived in Bangkok, Thailand and the surrounding area, and most of them lived as extended families. The caretakers were mainly parents or in some cases grandmothers.

There are 6 categories in the research findings that contributed to, and were involved in, a child becoming overweight. These categories interact/relate to each other as a process contributing to children being overweight. Child-Feeding Practices (CFP) as a core category is demonstrated by inappropriate overfeeding based on age, and the inclusion of additional food/snacks. Child-Feeding Practices comes from the interaction between the Encouraged Feeding (EF) category and the Family Positive Perception (FPP) category. Encourage Feeding is defined as child's temperament, and environment

(inside/outside influences), that persuade caretakers or family members to overfeed a child. The Family Positive Perception category refers to attitude, perception, and beliefs towards a child's feeding and growth needs. Family Positive Perception plays a role in impacting a child becoming overweight by supporting caretakers and family members to sustain an inappropriate overfeeding pattern.

When a child becomes overweight (Weight Gain, WG) from CFP, Observational/Interventional Triggers (OIT) appears to stimulate caretakers and family members to realize a child's overweight status. Some Controlled Feeding (CF) is implemented to decrease/prevent a child from gaining more weight. However, CF is not consistent or intense enough to adjust the CFP pattern. The process will continue as long as FPP is still persistent, thus resulting in lower effective CF for adjusting CFP patterns.

CHAPTER 5

DISCUSSION

Introduction

Chapter five is comprised of five sections. The first section illustrates theoretical relationships that result from research findings and the theoretical model in Chapter Four. The research findings are discussed in the second section. Some parts of the discussion relate back to Chapter Two (literature review). The discussion focuses on factors contributing to a child becoming overweight, weight management programs, and the role of health care providers. Various factors that contribute to a child's obesity are discussed in this section including demographics (genetics, ethnicity, socioeconomic status), rapid infant weight gain, family environment, food consumption, feeding behaviors, encouraged feeding, energy expenditure, and family positive perception. In the third section, I provide a discussion of an extended theoretical model by comparing the ecological model. The fourth section addresses implications for nursing care and future directions including education, practice, research, and policy. The limitations of this research study are provided in the last section.

Theoretical Relationships

The research findings and theoretical model illustrated in Chapter Four reflect a basic social process revealing how a young child in Thailand can become overweight. Child-Feeding Practices (CFP) play a crucial role as a core category in the model, because it directly influences weight gain. Caretakers, who are primarily the mother and grandmother, often have difficulty in providing appropriate feedings to a child throughout the transitional period (from formula to solid food). Although most of them tend to start

supplementary/solid food at the right time, they may have difficulty in scheduling formula feedings appropriately in terms of amount and frequency. The caretakers often feed a child based on the child's responses or interactions with them, rather than setting a regular feeding schedule. Additionally, the caretakers are less aware of overfeeding and the children gradually become overweight. Some caretakers don't decrease the amount of formula after they start supplementary/solid food, and those with children who decline solid food tend to feed more formula rather than increase solid food.

Caretakers or family members have a hard time setting a regular schedule, or letting a child set her/his own schedule, mainly because they are trying to please the child by feeding whenever he/she is signaling/begging. Even though some children are fed adequately, based on their ages, they tend to be overfed by being given larger portions. Not only are improper regular daily feeding amounts inducing weight gain, the addition of extra feedings (foods/snacks) from sharing, or a child's unrestricted access to food, are contributing factors.

The two categories, Encouraged Feeding (EF) and Family Positive Perception (FPP), play pivotal roles in preventing proper feeding by caretakers and family members. There are several variables that caretakers and family members shared that encouraged them to overfeed inadequately. Several participants stated that child's temperament was the major influence in their feeding practices. Children who enjoy eating will beg/search for foods that they like, and are more likely to be fed more often. In other words, caretakers and family members, whose child is happy when eating, or has tantrums when not eating, are more likely to feed him/her more. They want to keep their child happy, and they want to feel good about their role as a caretaker. Some caretakers stated that

circumstances/environments inside or outside of the home, such as mobile food merchants, family members/neighbors who share food, or unrestricted refrigerator access are increasing the child's food intake. From these children's temperament characteristics and circumstances, caretakers or family members, may feel that they are obligated to feed the child more often than they otherwise would.

Family Positive Perception (FPP) is another category playing a crucial role in controlling Child-Feeding Practices (CFP) by a caretaker. Findings from this research revealed that caretakers or family members generally perceive the child as not too overweight, until a child's physical problems are more apparent. Even though they realize their child is becoming overweight, due to tighter fitting clothes, by lifting the child, innocent teasing/greeting from neighbor/strangers, or by being informed by health care providers, they still hold various positive views of their current feeding habits. They believe nutrition from food and formula helps a child grow properly, and to be healthier and taller in the future. They insist that their child is too young to limit feeding right now, and they also retain the view that the child will get thinner when eventually attending school.

Some Controlling Feeding (CF) strategies, and providing more healthy food, are implemented to adjust CFP, even though caretakers or family members perceive their child as not too overweight. They are more concerned about the child's weight in the future than they are today, but reveal that they don't want the child to become heavier than the current weight. They believe that the child is currently at the upper limit of healthy weight. With the perception that a child is a not too overweight, a caretaker or family members don't consistently control the amount of feeding and would rather

provide healthy foods and hide/remove unhealthy foods. The relationships among categories described above explain how these categories interact/relate to one other as a process. The process sheds light on the problem, so that health care providers may better understand why a child becomes overweight, and continues to sustain that status.

Discussion

According to literature reviewed in Chapter Two, multiple risk factors seem to play an important role in children becoming overweight, such as demographics, family environment, rapid infant growth, food consumption, and energy expenditure. Some aspects of this research study support the findings from the literature in Chapter Two, but other findings illustrate a different view/outcome.

Demographics

Demographics such as genetics, ethnicity, and socioeconomic status have been studied widely and the outcomes persistently show that they are influential in a child becoming overweight.

Genetics

A number of researchers have pointed out that genetics play an important role leading to a child becoming overweight (Cecli, 2012; Haworth et al., 2008; Hur et al., 2008). In Thailand, Buar (2012), emphasized that a family history of parents being overweight tends to lead to their children being overweight as well ,and Manios, Moschonis, Grammatikaki, Anastasiadou, and Liarigkovinos (2010) mentioned that higher parental BMIs were the main determinants of obesity in preschool years. Even though all participants in this research study denied that they had a history of obesity in their families, some family members were found to be overweight after observing and

reviewing the demographic data (BMI), especially families with severely obese children. Caretakers stated that even though some previous generations (grandparents) looked bigger, they were not too overweight, and they were not overweight when they were younger. Findings in this research study do not fully support genetics as playing a major role in causing overweight children; caretakers or family members were found to be of many different weight statuses (underweight/normal weight/overweight/obese).

However, the perceptions that they don't have a positive family history of being overweight, and that their child is not at risk for being overweight in the future, restrain them from being concerned about weight issues. Most participants expressed that they are not too worried about their children's weight status, because they believe their children will be thinner when they grow up. Believing genetics ultimately influence future weight status, and that their family health history is a good one, leads caretakers or family members to be unaware of overfeeding.

Ethnicity

Various researchers have stated that ethnicity could predict a child's future weight status (CDC, 2012; Freedman et al., 2005; Gance-Cleveland et al., 2015; Ogden et al., 2002). For example, Mexican Americans and non-Hispanic Black children tend to be more obese than non-Hispanic white children (CDC 2012). Thailand has people of other nationalities living within its borders including Burmese, Cambodians, and Laotians, but they are small in number living in a limited area. Furthermore, there is no basis or evidence that demonstrates a higher prevalence of overweight children in these groups, as opposed to Thais. Consequently, families of other nationalities were excluded from this research, and all participants are of Thai nationality, living in Bangkok and the

surrounding areas. In other words, ethnicity was not considered or factored into this research.

Socioeconomic Status

Many researchers, (Balistreri, 2009; Chapman, 2009; McLaren, 2007; Ogden et al., 2010) found that American families who have higher incomes and higher levels of education tend to have a lower prevalence of overweight children. Christensen (2011) also reported that Danish parents with higher levels of cultural capital are less likely to have overweight children. Findings from a longitudinal study in England and Wales with 2402 enrolled families illustrated that lower SES was related to a higher chance of rapid weight gain in the first three months of infancy (Wijlaars et al., 2011).

The reason as to why low socio-economic status increases the risk of obesity was unclear. It might be that these children who are in families with lower socio-economic status live in an area where there is a higher number of fast food outlets. Easy access to a cheaper food supply may contribute to weight gain. The restriction of behavioral options due to economic hardships, such as access to healthy foods and leisure time activities, and too much stress in people's daily lives, may leave them with less time and energy to think about controlling their weight. Low socio-economic status may also result in lower skill levels and knowledge of proper weight maintenance (Sarlio-Lhteenkorva, 2007; Slater et al., 2010).

Another reason could be that Hispanic and African American populations are more likely to practice non-responsive feeding styles (controlling, indulgent, and uninvolved) than Caucasians. These feedings are positively related to a child's weight status/BMI (Hughes, Power, Orlet Fisher, Mueller, & Nicklas, 2005; Hurley, Black,

Papas, & Caulfield, 2008).

However, socioeconomic factors in this research do not support the outcomes from these previous studies. It was not easy in this research study to estimate exact family income, because most participants live within extended families, and they support each other as household units. However, they didn't mention financial issues as a factor in raising their children. For example, three young parents who had a lower level of income (less than \$150/month), and one unemployed parent who is a student, received financial support from other family members, such as grandparents and their siblings.

According to interviews and observations, all participants seem to be able to afford food and formula for their children. In other words, while some families who have higher incomes frequently bring their children to expensive restaurants, poorer families can also afford to properly feed their children.

Furthermore, parents' educations are also not related to a child's weight status. Caretakers and family members in this research study have different levels of education, but they have common knowledge about the causes and consequences of being overweight, they can identify which foods are and are not healthy, and they try to promote a healthy diet for their children.

In addition, with observations during the interviews, it appeared that older caretakers tend to have a higher authority over feeding decisions for children in the family than that of younger caretakers. As was previous mentioned above, in Thai society people commonly live as an extended families. As a culture, younger Thai caretakers are supposed to respect and listen to older family members, especially if they have to rely on their financial support. Therefore, younger caretakers experience a harder

time scheduling and controlling a child's feeding habits. Even though the research findings show that family income does not affect a child's weight status, they do support Baur's study in 2012. She found that residence in metropolitan cities is one of the causes of the increased prevalence of overweight children in developing countries.

This research study was conducted in Bangkok, which is one of the metropolitan cities that are already showing a higher rate of overweight children. This research seems to affirm what Baur found, that families who live in a big city have a higher household income, and are more able to afford food and formula for their children than families who live in other areas. In summary, education, family income, and career of caretakers may not play a major role in this research, or in a child's overweight status. However, the findings have revealed that the age of caretakers is influential in making decisions on how to care for a child.

Rapid Infant Weight Gain

A group of investigators (Anderson, 2012; Baird, 2005; Ong & Loos, 2006; Stettler et al., 2002) found that the increased weight gain throughout early infancy affected later obesity. My research study supports findings from these previous studies that the increasing weight gain of participating children started in infancy. According to a health history review, even though some children had decreased weight gain when they were ill, afterwards their weight increased quickly and continuously. Children's weight in this study actually increased sharply in the one to two years age range, a finding not mentioned in previous studies. Caretakers indicated that their child looked bigger when he/she was about one year, or older. It may be that as children get older, they have the skills to ask for or help themselves to food. Therefore, this increased access to food

during the one to two year age period may contribute to their increased weight gain.

Some studies revealed that the prevalence of early childhood overweight and obesity is associated with shorter duration of breastfeeding (Anderson, Hayes & Chock, 2014; McCrory & Layte, 2012). A possible mechanism is that breastfeeding may slow patterns of growth among breastfed children (McCrory & Layte, 2012). These studies align with this research finding, in that they illustrate that most overweight children had a shorter period of breastfeeding (three months) because their mothers had gone back to work after three months, and mothers had a harder time preparing breast milk at their workplaces (i.e. breastmilk pumping). The Thai Ministry of Public Health recommends that children should receive breastfeeding for at least six months to two years.

Taal, Vd Heijden, Steegers, Hofman, and Jaddoe (2013) suggested that 89.9% of all children born SGA and 86.4% of all children born LGA in birth weight showed catch-up and catch-down growth in the first six months of life, respectively. The outcomes of their research highlighted that “children born SGA will have catch-up growth and children born LGA without catch-down growth have a higher subcutaneous fat mass and body mass index in childhood, and are at increased risk for childhood overweight” (p. 1268).

In this research study, nine children were born appropriate for gestation age (AGA), one of them was born small for gestation age (SGA), and three larger for gestation age (LGA). Even though the number of children in this study is too small to support the research mentioned above, the findings are in line with their results. The overweight children in this research, who were born in the AGA/SGA, were fast to catch-up and those who were born in the LGA range failed to catch-down within their first six

months.

Systematic reviews from Rossi and de Vasconcelos (2010) and Yu et al. (2011) suggested that high birth weight is associated with increased risk of children becoming overweight in the majority of the studies. Nevertheless, findings from this research indicate that most overweight children (9/13) were born appropriate for gestational age. However, based on interviews, some caretakers, who have a high birth weight child, believe that limiting feeding should not be practiced on high birth weight children.

Caretakers whose child appeared to be larger at birth, don't want to limit their child's feeding, because they believe that a larger baby should have extra room to grow than children who are smaller. In other words, the perception of extra room to grow may become the answer to the systemic review above, as to why high birth weight was associated with increased risk of children becoming overweight. Finally, the growth charts used in this research for children based on their age illustrated a plateau or slight increase if caretakers or family members strictly and constantly limit feeding.

Family Environment

Some investigators have insisted that family environment and parenting behaviors are a cause of a child's overweight status. Kuhnlein et al. (2013) and Elder et al. (2010) found that children growing up in families with poor dietary patterns and sedentary activities such as watching television or playing video games are less likely to provide instrumental support. They found that parents were less likely to set aside time for children's outdoor activities, which led to these children being more likely to become overweight or obese as young adults.

Findings illustrated the family environment that includes permissive caretakers or

extended family members who indulge children by overfeeding, had a direct impact on a child's overweight status. A child who lives in a nuclear family with permissive parents who indulge their child, are exposed to more foods that they enjoy while out to eat, and end up eating more portions than they would otherwise eat at home. On the other hand, a child who lives in an extended family, even though caretakers may try to limit his/her feeding, have some family members who will indulge the child with food anyway. They commonly share their food with the child when they are eating regular meals, or enjoying treats/snacks.

This finding is supported by that of Li, Adab, and Cheng (2014): children who lived with at least two grandparents in the household were at higher risk for being overweight/obese than children who lived without any grandparent. Furthermore, some researchers found that outside environmental influences, such as neighborhood safety and hot weather had a significant association with children's BMI and increased indoor sedentary behaviors (Cecil-Karb, 2009; Hackie & Bowles, 2007). Findings in this research demonstrated that outside environments do have a significant association with children's BMI, but for very different reasons. This research study revealed that availability of food from mobile food merchants and sharing of food by neighbors/strangers encourages overfeeding of children, and contributes to a child becoming overweight.

Food Consumption

The outcomes of various studies highlighted that food consumption plays a major role in causing a child to become overweight. High consumption of some items such as fast foods, sweetened drinks, large portion sizes, and caloric-dense foods, are associated

with overweight children (Amin et al., 2008; Dubois et al., 2007; French et al., 2003; Guthrie & Morton, 2000; Hanley et al., 2000; Nielsen & Popkin, 2004; Rampersaud et al., 2003;). Findings in this research unsurprisingly support all the outcomes from these previous studies. In the current study, Child-Feeding Practices play a major role in causing a child to become overweight.

The children in this research study are seven months to three years of age, the stage from late infancy to toddlerhood, and a transitional period from formula to solid food. Children in the period from one to three years of age grow rapidly, although not as rapidly as during the first year. Toddlers are beginning to exert their independence in food choices (Cowbrough, 2010). They commonly stay home and receive food from caretakers or family members. The children in this study are overfed from caretakers or family members. They are overfed on a regular daily basis, including added snacks/treats.

Recommended feeding for the first six months, is breastfeeding or formula. At six months, one supplementary food meal should begin, two meals at eight months, followed by three solid meals starting at one year. Supplementary food should begin with smaller amounts, and gradually increase, and go from food that is ground up, to more solid (WHO, 2014; Thai Ministry of Public Health, 1994). In other words, formula plays an important role as a regular food for a child from birth to one year, and after that it becomes supplementary food.

Some children, who receive proper food choices based on age, are overfed with larger portions, in particular, their preferred foods that caretakers or family members tend to serve them more often. Children who have a hard time starting or stepping up to

supplementary/solid food, tend to be fed larger amounts of formula, and more frequently. Some children, who are able to communicate or show their preferences for some types of food, are encouraging caretakers or family members to provide these foods more often. Most children's favorite foods are very high in calories. This outcome is congruent with findings from a study by Gomel and Zamora (2007) who investigated beliefs about how food and food preparation are related to children and the role of mothers by using focus group parenting. The outcomes revealed that mothers cooked by considering the children's food preference when preparing meals. Additionally, all overweight children in this research routinely received extra food from caretakers or family members by sharing, in particular, older children were able to access extra food from refrigerators and mobile food merchants.

Feeding Behaviors

A number of investigators have pointed out that types of parental feeding practices are linked to children's weight status (Zhang & McIntosh, 2011). Unresponsive feeding styles, for example, affect a child's weight status and eating behaviors. Indulgent feeding, along with allowing a child to control feeding and meal times, is positively associated with BMI and/or overweight/ obesity (Hoerr et al., 2009; Hughes, Shewchuk, Baskin, Nicklas, & Qu, 2008; Musher-Eizenman, de Lauzon-Guillain, Holub, Leporc & Charles, 2009). Too restrictive feeding (forcing a child to eat), and uninvolved feeding during mealtime were positively related to a child's weight status and prompted a child to eat in the absence of hunger (Birch, Fisher, & Davison, 2003).

On the other hand, many researchers suggested that responsive feeding, which is a reciprocal relationship between an infant or child and his/her caretaker, can reduce

over/under feeding (Engle & Pelto, 2011). Responsive feeding refers to the caretaker's immediate response to a child communicating feelings of hunger and satiety through verbal or nonverbal cues (Harbron & Booley, 2013). Therefore, responsive feeding has been incorporated into infant and young children's nutritional policies by many organizations (Engle & Pelto, 2011). However, the study of responsive feeding intervention is still limited.

In this research study, the feeding styles seem to be mixed between responsive and indulgent feedings, but sometimes they are too strict. For example, caretakers and family members tend to be responsive to a child's feeding hunger or satiety cues during the meal (formula/ supplementary/solid food). However, they tend to use indulgent feeding when a child signals/demands and it doesn't matter if he/she is hungry, or still enjoying a meal (including additional food/snacks). When a child refuses supplementary food, the caretaker tends to allow the child to retain formula milk as a regular food, and lets the child schedule his/her own meals.

On the other hand, caretakers and family members tend to restrict feeding of unhealthy foods, because they perceive these foods will have a negative effect on a child's health. Even though responsive feeding was suggested to reduce overfeeding a child, by recommending the caretaker focus on cues of a child's hunger or satiety, the overweight children in this research seem to have lower levels of self-regulation, and they can eat larger portions of foods than they should. In other words, the responsive feeding may be disrupted by a child's temperament characteristic and obesant environment (inside/outside influences). Therefore, effective responsive feeding intervention, in particular, that based on children's temperaments, needs to be explored.

Encouraged Feeding

Although the literature reviewed in Chapter Two did not include Encouraged Feeding as a factor contributing to a child becoming overweight, various factors that were mentioned above would. These factors can be identified as part of the Encouraged Feeding category by the definition of this research finding (Chapter 4). For example, the family environment that includes extended family, where the child is sharing food or has unrestricted access to a refrigerator, nighttime feeding, or outside environments such as mobile food merchants, is considered part of the Encourage Feeding category. These environments contribute to overfeeding by parents, caretakers, and/ or extended family.

Other factors promoting encouraged feeding are the child's temperament characteristics. All caretakers and family members stated that a child's temperament characteristics are also among the factors that encourage them to feed more often. Some behavioral characteristics of children such as enjoying eating, being able to eat larger portions, and searching for food on their own, are preventing caretakers from implementing a proper diet. The child's temperament characteristics may be making caretakers or family members hesitate to feed less, because they are unsure if the child is full, or just wants to eat more. Some caretakers noted that they just want a child to try the food that they were eating, and/or to keep the children happy by giving them what they want.

Even so, sometimes caretakers and family members try not to share food with their children while they are eating, but when a child is right in front of them, they inevitably give in and share. Tantrums are another of children's temperament characteristics that a child may use to receive more food. Even though some caretakers

or family members have a strong will not to overfeed, a very intense tantrum of crying and screaming will eventually lead them to surrender to the child's wants/needs. A child will eventually learn whom they can go to, and easily receive extra food.

Even though several researchers have insisted that young children are capable of regulating energy intake (Birch & Deysher 1986; Birch, McPhee & Sullivan, 1989; Birch, Johnson, Andresen, Peters & Schulte, 1991; Birch, Johnson, Jones & Peters, 1993), it is possible that the overweight children in this research study are genetically predisposed to have lower levels of self-regulation and are highly responsive or are susceptible to obesogenic environmental factors (Birch, Fisher & Davison, 2003). In other words, child temperament characteristics may contribute to excess consumption among children of indulgent caretakers (Qu, 2008).

These findings are similar to those of Francis and Susman (2009) who noted that children with compromised self-regulation, such as failure to control impulses or behaviors in preschool and kindergarten years, predicted rapid weight gain and higher BMI in middle-school years. Francis, Ventura, Marini, and Birch (2007), who conducted a longitudinal study of 197 children ages 5-13 years, surmised one family's practice of uninhibited overfeeding was a direct cause of a child becoming overweight. Zhang and McIntosh (2011) concluded that parental feeding practices are linked to children's weight status.

Energy Expenditure

Various investigators have surmised that decreasing energy expenditure, such as excessive time watching TV, using computers, playing video games, doing homework, and decreased physical activity, have contributed to a sedentary lifestyle and increased

obesity in children (Davison et al., 2006; Cecil-Karb, 2009; Chinn, 2001; WHO, 2012; Schmidt et al., 2009). However, findings from this study do not support limited energy expenditure as a factor. This may be because the children in the study are too young,-- seven months to three years of age. Their focus is playing on the floor with small toys, walking, and running around exploring, rather than sitting in front of computers/video games/TV. They are generally very active, and if they not napping, they will have many activities throughout their day.

From observations during interviews, most children were very playful, some of them playing with other children, some of them playing with siblings or relatives, and some of them playing by themselves with toys. Caretakers stated that family members bring their children to enjoy outdoor activities almost every day in their own yard, a local park, or surrounding areas within the village. There are a few older children whose parents can afford an I-Pad and they spend some time playing video games and watching movies, but the parents/caretakers confirm that their child is actively playing outside almost every evening and on weekends.

Although for this research I did not calculate a child's calories spent while doing activities, all children in this study were healthy and without disabilities. Therefore the findings demonstrate that energy expenditure is neither limited nor influential in a child becoming overweight. Moreover, as stated earlier Cecil-Karb (2009) and Hackie and Bowles (2007) emphasized that neighborhood safety, and hot weather had a significant association with children's BMI and increase indoor sedentary behaviors.

However, these conclusions did not directly relate to a child becoming overweight in this research study. Hot weather does not seem to be a barrier for Thai children;

during the day, they play inside, or under shaded areas from overhanging roofs. Caretakers or family members usually bring them out to play in the evening, when sunlight is waning. Even though one participant in this study expressed concern about safety issues when bringing her grandchild to a local park, because of excessive dog feces and some dangerous dogs, her husband instead would just bring their grandchild to a cleaner and safer park.

Family Positive Perception

Even though parental perceptions of overweight children were not prominently reviewed in Chapter Two, the outcome undoubtedly shows that family perceptions play a pivotal role related to a child becoming overweight. The results from many research studies show that parental perceptions are directly related to children's BMI. Various researchers noted that parents, who were more likely to underestimate their child's weight, were contributing to their child's overweight status, especially parents who were themselves overweight (Doolen, Alpert, & Miller, 2009; Jimenez-Cruz et al., 2010; Jones et al., 2011; Manios et al., 2010; Parkinson et al., 2011; Perrin et al., 2010; Tschamler, Conn, Cook, & Halterman, 2010). However, findings in this research demonstrate that most caretakers and family members generally admit that their child is getting bigger, but in their eyes their child doesn't look too overweight.

This finding supports those of McGavey et al. (2006) in a study of the WIC preschool child obesity prevention program that demonstrated that a child's healthy appearance was more important than actual weight, and that obesity in an infant was not a problem from the participants' point of view. Furthermore, caretakers and family members are more concerned about the future weight status of their child, rather than the

current status. These findings are in line with Parkinson et al. (2011), whose study revealed that parents of children six to eight years old were more concerned about the future weight of their children, rather than their current weight status.

Although researchers have highlighted that parents' underestimation of their child's overweight status is contributing to the prevalence of overweight children, only a handful of researchers have explored the reasons. The findings from this research may answer this question. Not only do the findings reveal caretakers' or family members' ability to identify when their children are overweight (according to standard criteria) was limited, but that other positive perceptions were preventing the proper feeding of their children. Caretakers or family members believe that their child is too young to limit food and he/she needs enough food to grow, supporting the findings of Hackie and Bowles (2007) who discovered that parents believed that little children should not be concerned about overweight status, because they were so young and need energy to grow up.

Some caretakers or family members don't wish to decrease formula, even though they should be doing so based on their child's age. This is because they believe formula helps a child grow in height. Most of them also insist that their child will grow out of it, becoming thinner as they age, or when they eventually attend school. They believe school can shape a child's diet, activity patterns, and create a regular routine. In addition, most caretakers and family members are concerned more about providing healthy foods and ridding their child of unhealthy foods, rather than decreasing their child's weight.

Findings in this research match those of Akhtar-Danesh, Dehghan, Morrison, and Fonseka (2011) who investigated parents' perceptions of and attitudes about childhood obesity. Most parents of children four months to three years of age illustrated their

awareness of healthy nutrition, and about one third of them indicated believing in the benefits of physical activity for children.

Weight Management Programs

According to literature reviewed in Chapter Two, weight management programs have contributed to many strategies aimed at promoting healthier lifestyles and preventing adverse consequences for overweight children. Most programs focus on behavior control as a major technique, for example dietary control, encouraging activities, decreasing TV/game viewing, and promoting self motivation. Only one intervention involved medication. Nowadays the strategy is to integrate new technologies in these programs such as email, texting, websites, and online chatting, rather than traditional group meetings, to increase the effectiveness of the programs.

The programs commonly focus on school age children ages 7-17 year-old (Doyle et al., 2008; Garipagaoglu et al., 2009; Golley et al., 2007; Johnston et al., 2013; Kirk et al., 2012; Llargues et al., 2011; Muckelbauer, 2009; Prelip et al., 2010; Rezvanian et al., 2010; Saelens et al., 2013; Sacher et al., 2010; Shrewsbury et al., 2009). Some other programs that include family involvement were conducted with younger child ages 4-11 years old (Epstein et al., 2008; West et al., 2010). No known programs were focused on interventions for toddlers or infants.

Even though weight management programs in Thailand have not been reported in academic publications, or are inaccessible (because of database system limitations), there are various weight management programs that continue to be launched for overweight children in many areas, in particular the big cities. Literature in Chapter Two has shown that seven weight-control programs were conducted in Thailand. All programs were

conducted in a school setting. Some studies used participatory enrollment, which involved various stakeholders such as family, community members, teachers, and school networks (Banchonhattkit, 2009; Chotibang, 2009; Sirikulchayanonta et al., 2011; Somsamai, 2008). Some interventions were designed as case control trials (In-Iw et al., 2012; Teerarungsikul, 2008). The programs emphasized enhanced knowledge, promoting healthy diets, and encouraging exercise. Even though the outcomes did not show a significant decrease in children's weight, overweight children gained better knowledge and healthier habits. However, no interventions were conducted on toddlers or younger children, and this research study supports this finding.

Participants in this research stated that they have never participated in any weight management/ control program. Participants noted that they only received advice and information from health care providers that their child was becoming overweight, and that they needed to limit food intake. These strategies commonly recommend eliminating formula feeding during the night, provide more low calorie and healthier foods, limit extra food, and urge caregivers to make portions smaller. The frequency of suggestions from healthcare providers depended on where parents brought their children to receive vaccines. If a child regularly received a vaccine at Ramathibodi Hospital, parents were likely to receive suggestions more often than they did when visiting a primary healthcare service.

However, these suggestions were not considered a program or intervention, there was no follow up, and no re-evaluation afterwards. According to Bulechek and Mccloskey (1999), a nursing intervention program is defined as performing either direct or indirect care aimed at an enhanced quality of life for individuals, families, and

communities; it usually involves nurse-initiated, physician-initiated, and/or other provider-initiated treatment. These programs usually have clear timeframes and boundaries (Wright & Bell, 2009). Without effective programs/interventions, some caretakers or family members tend to follow health care providers' suggestions inconsistently and less strictly.

Various research studies have been conducted to find the parental feeding styles that affect a child's weight. Recommendations of responsive feeding practices (to hunger and satiety cues) were able to reduce overfeeding (Birch, et al. 2003), but the study of responsive feeding intervention is still limited. Therefore, future intervention (focusing on responsive feeding), using recommended feeding based on a child's age would be difficult, but a benefit to younger overweight children. The goals of these interventions should focus on a child's proper feeding of healthy food, and getting rid of excessive additional food/snacks, rather than losing weight.

In addition, in 2014 and 2015, the Thai Ministry of Public Health launched a plan, strategy indicator, and data storage approach aimed at promoting a healthy life for all age groups within the Thai population. For example, Thai children from birth-five years are encouraged to demonstrate appropriate development based on their age. Primary health care providers are responsible for assessing a child's development at least two times a year, to record it on computers, and report it back to the Ministry of Public Health. Children 5-14 years of age are encouraged to have a healthy weight, and schools are encouraged to keep overweight children to fewer than 15%, and also to decrease this level each year by 0.5%. Schools play an important role in meeting the goals of this policy, by measuring children's weight and height at least two times a year, recording the

results on computer, and reporting them back to Thai Ministry of Public Health.

If children are considered to be overweight based on their BMI, it is the school's responsibility to implement a program that promotes a healthier lifestyle and reduced body weight. The recommend programs are focused on limiting salty, greasy and sweetened foods, and promoting at least four spoonfuls of vegetables, and eight pieces of fruit per day. These school programs must also include more activities for children who are overweight (Ministry of Public Health, 2015). According to this policy, various weight management programs were implemented to serve the Thai national policy of controlling the prevalence of overweight children in schools.

To summarize, various researchers have pointed to increased weight in young children (under three years) as influential in being overweight in later years (Andersen, 2012; Baird, 2005; Ong & Loos, 2006), and that it is harder for school age children to change their lifestyles later in life if they have not developed healthy habits developed in early childhood (Esenay et al., 2010). However, a few interventions did target these younger children. Furthermore, the outcomes of weight management programs in Thailand schools, which were reviewed in 2008-2013, illustrated that these programs showed no statistical significance in reducing school children's weight, only enhancing knowledge and healthier eating habits and activities (Banchonhatkit, 2009; Chotibang, 2009; In-Iw, et al., 2012; Teerarungsikul, 2008; Sirikulchayanonta et al., 2011; Somsamai, 2008).

Effective weight management programs for preventing children from becoming overweight should target preschool children, rather than school age children. Young children are commonly cared for at home, and it is easier for caretakers to shape or

promote healthier eating habits at a younger age. Caretakers have regular vaccine appointments for their children, making it easier for health care providers to follow their outcome. Weight management programs should aim to encourage caretakers or family members to establish a routine of three meals, two snacks and one to two cups of formula a day, rather than focusing on weight loss. Caretakers should not let younger children set the rules for eating, as the children may develop improper eating habits that could lead to overfeeding. Arranging mealtimes together as a family establishes a good eating pattern for the future (Cowbrough, 2010).

Health Care Provider's Role

A number of investigators have suggested that promoting the role of nurse practitioners in educating parents, and increasing parents' awareness about the causes and consequences of childhood obesity, are strategies to help lower the prevalence of childhood obesity (Akhtar-Danesh, et al. 2011; Scaglioni, Arrizza, Vecchi, & Tedeschi 2011; Zhang & McIntosh, 2011). Literature reviewed in Chapter Two demonstrated that there are two important roles of health care providers in promoting better health in overweight children. The first role is that of researcher studying the interventions for prevention and reduction of excessive weight in children. The other role is involvement in a study as a counselor or a health educator. There are two main areas of medical community interventions.

The first area is a special clinic for severely overweight children, which includes an intense program and sometimes involves the use of certain specific medications. The other area is primary healthcare and/or school systems focusing on prevention and screening for children at risk for obesity. A number of researchers indicated that even

though health care providers are likely to be more concerned about children being overweight, there are some barriers that prevent effective treatment efforts. There is a lack of training opportunities on recommended practices related to obesity assessment, prevention, and treatment (Barr, Yarker, Levy-Milne & Chapman, 2004; Findholt, Davis, & Michael, 2013; Hinchman, Beno, Dennison, & Trowbridge, 2005; Spivack, Swietlik, Alessandrini, & Faith, 2010; Story et al., 2002), lack of local and regional resources (Beno, Hinchman, Kibbe & Trowbridge, 2005), and lack of community support and parental denial (Sivertsen, Woolfenden, Woodhead, & Lewis, 2008).

Some pilot studies of various interventions were conducted to develop tools, practice guidelines, and training to improve health care providers' performance in overweight assessment, prevention and treatment (Beno, et al., 2005; Sargent, Pilotto, & Baur, 2011; Woolford, Clark, Ahmed & Davis, 2009). However, in Thailand, there is no summarization on how effective these health care providers are in preventing children from becoming overweight, including their practices and attitudes toward screening for overweight status, and how different the approach to this screening process is among primary and tertiary health care providers.

Findings from this research demonstrate that primary health care providers were less likely to be concerned about a child's weight status than were tertiary health care providers. The lower level of concern by primary health care providers may be due to the policies of the Thai Ministry of Public Health, which promotes healthier weight of school age children. Ramathibodi Hospital, on the other hand, is a tertiary health care service within the University of Mahidol. Patients' healthcare records and treatments were reviewed from time to time by a staff team to ensure quality of service. Undoubtedly,

participants who visit the OPD at Ramathibodi Hospital via the Well Baby Clinic, or Acute Care Clinic, are receiving regular advice on various strategies to deal with a child's overweight issues.

These records, treatments, strategies, and many other data elements, including participants' data in this research study, were part of the data collection reviewed by this researcher. However, the suggestions from health care providers may not be enough to decrease the number of overweight children. Practical interventions and evaluations are needed. These are important to assess and implement with overweight children and should foster consistent practices, clear guidelines, and effective weight assessment tools. The role of health care providers in promoting healthy weight in young children warrants higher priority in the health care system.

Expanded and Related Theoretical Model

The Ecological Model (Bronfenbrenner, 1986) is widely used to as the basis for assessing and predicting children who will become overweight. The findings from this research resulted in the development of a model: Sustaining Weight Gain in Young Children (SWGYC), in part related to the Ecological Model. To better understand the phenomena of overweight children, the two models and the discussion that follows are provided below.

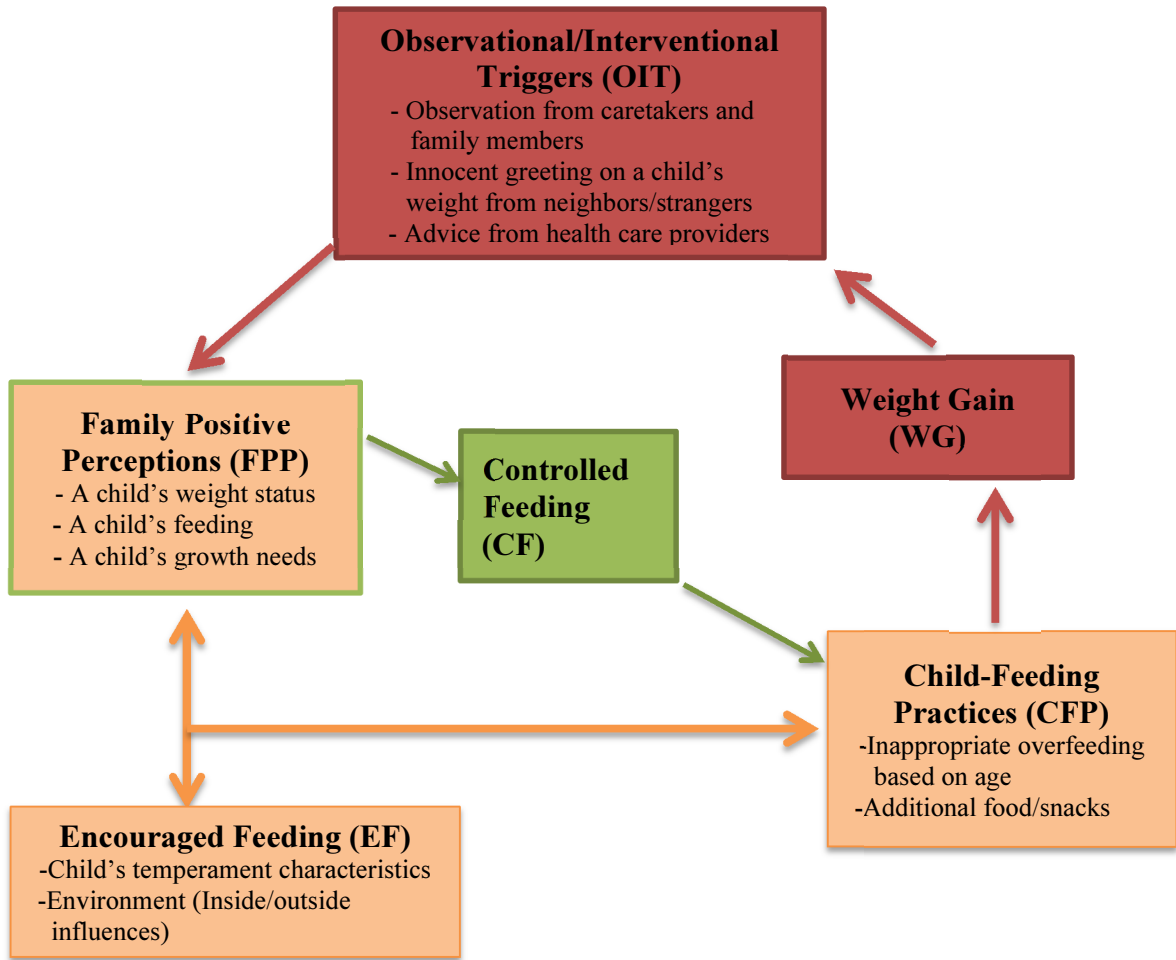


Figure 3: Model of Sustaining Weight Gain in Young Children (SWGYC).
 *Yellow is caution, Red is warning, Green is improving

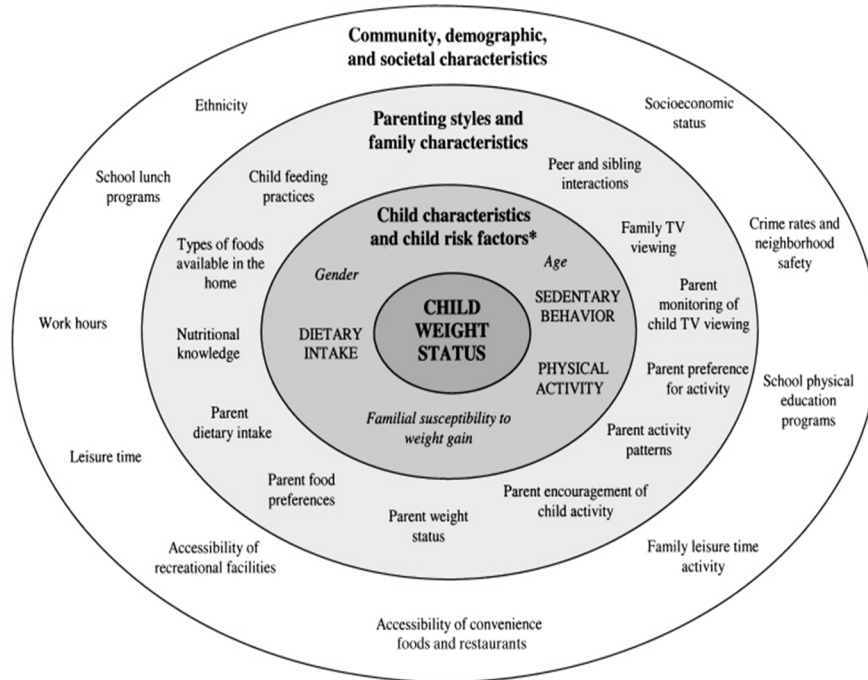


Figure 4: The Ecological Model of Predictors of Childhood Overweight.

Table 6: The Comparison Between the Sustaining Weight Gain in Young Children Model (SWGYC) and the Ecological Model of Predictors of Childhood Overweight.

Comparisons	Ecological model	SWGYC model
Model characteristics	-Broader -School age/adolescent focus -Layer illustrated	-Narrower -Infant/toddler focus -Social process illustrated
The first layer: Child characteristics and child risk factors	-Gender, Age, Familial susceptibility to weight gain -Dietary intake, Sedentary behavior, Physical activity	-Child's temperament characteristics (Encouraged Feeding category, EF)
The second layer: Parenting styles and family characteristics	-Child feeding practices -Type of food available in the home -Parent dietary intake -Parent food preferences -Nutritional knowledge -Parent weight status -Parent encouragement of child activity -Parent activities patterns -Parent preference for activity -Parent monitoring of child TV	-Child-Feeding Practices category (CFP) -Controlled Feeding category (CF) -Inside influences: Night feeding, refrigerator access, family members' food sharing (Encouraged Feeding category, EF)

	viewing/ Family TV viewing -Peer and sibling interaction	-Family Positive Perception category (FPP)
The third layer: Community, demographic, and social characteristics	-Ethnicity -School lunch programs -work hours -Leisure time -Accessibility of recreational facilities -Accessibility of convenience foods and restaurants -Family leisure time activity -School physical education programs -Crime rates and neighborhood safety -Socioeconomic status	-Outside influences: Neighbor food sharing, and mobile food merchants (Encouraged Feeding category, EF) -Observational/ Interventional triggers category (OIT)

The Ecological Systems Theory (EST) explains that human development comes from a contextual interaction. Therefore, development or a change in individual characteristics cannot be effectively explained without consideration of the context, situation, and ecology that the person embraces in (Bronfenbrenner, 1986; Bronfenbrenner & Morris, 1988). A child as a human has his/her own characteristics, such as age and gender, and his/her own contexts such as family, school, and community. A child's development comes from interaction between his/her characteristics and these contexts.

Ecological System Theory is an effective tool, which was developed as a model, to illustrate various factors that are related to a child's weight status. The use of an Ecological framework has been integrated into diverse research studies to assess risk factors that lead to children becoming overweight. Risk factors such as dietary intake, physical activity, and sedentary behaviors including familial and societal characteristics, make up one of the layers within the Ecological model (Krahnstoever Davison, Davison & Birch, 2001).

The Sustaining Weight Gain in Young Children (SWGYC) model, on the other hand resulted from outcomes of this research study utilizing grounded theory as a methodology. The outcome demonstrated six categories (Child-feeding practices, Encouraged feeding, Family positive perceptions, Weight gain, Controlled feeding, and Observational/ interventional triggers) that reacted/related to each other as a process that contributes to a child becoming overweight. The following is a discussion comparing the layers of the Ecological model and the categories of the Sustaining Weight Gain in Young Children model (SWGYC).

Overall, the Ecological model is larger and broader than the SWGYC model. Some parts of the SWGYC model are explained in the Ecological model, but some are not. Focusing on Child Characteristics and Child Risk Factors (the first layer of the Ecological model), there are no factors that relate to the SWGYC model. The factors in the inner layer that the Ecological model demonstrates, such as gender, dietary intake, age, sedentary behavior, physical activities, and familial susceptibility to weight gain, are not significant factors in the SWGYC model.

However, there are several factors that the SWGYC model emphasizes, and the Ecological model does not even mention. For example, a child's temperament characteristics such as impulsive eating or enjoying eating, are identified within the Encouraged Feeding category in the SWGYC model. Failing to catch-up and being quick to catch-down in infants, seems to affect a young child's weight status, but the number of participating children in this research is too small to summarize and it was not illustrated within the SWGYC model.

When focusing on the second layer of the Ecological model, Parenting Styles and

Family Characteristics, there are five factors that are in line with the SWGYC model. First, “child feeding practice” from the Ecological model is identified as the Child-Feeding Practices category of the SWGYC model. Second, “the type of foods available in the home” is identified as the Encouraged Feeding category of the SWGYC model. The SWGYC model explains that the inside home environment, such as refrigerator access, is influential in a child’s weight.

Thirdly, “nutritional knowledge”, even though the findings of this research do not emphasize this as a factor that contributes to a child becoming overweight, based on interviews, it is clear that it is partially related. Caretakers show a lack of attention to how to feed their child adequately. They know when their child should start and step up to supplementary food, but they do not pay attention to strictly decreasing formula milk concurrently. For this research study, the caretaker’s behavior of feeding is identified as the Child-Feeding Practice category.

Fourthly, even though the SWGYC model does not directly demonstrate that “parent food preferences” is a factor that contributes to a child becoming overweight, it shows indirect relation by the behavior of food sharing. If parents eat higher calorie foods more often, their child tends do the same, due to the fact that parents share their food. Finally, based on interviews and observations, parents’ weight status is partially related to a child’s weight status when a child is identified as severely obese.

Nevertheless, the number of participants is too small to summarize the significant relationship, and therefore it is not illustrated in the SWGYC model. In addition, there are two factors, Family Positive Perception and extended family (in Encouraged Feeding category), that appear in the SWGYC model, affecting a child’s weight status, but are not

mentioned in the Ecological model. Family Positive Perception refers to various perceptions, such as a child is not too overweight, nutrition from food helps a child grow properly, and a child will be thinner later in life. The extended family is identified in the Encourage Feeding category. These two factors have a negative effect on a child's weight status.

The outer layer of the Ecological model, Community, Demographic, and Society Characteristics, are not factors within the SWGYC model. However, there are two factors in the SWG model, neighbor food sharing, and mobile food merchants, that are considered Community Characteristics causing a child to become overweight, although they are similar to "accessibility of convenience foods and restaurants" in the Ecological model, they are not the same. These two factors are a part of the Encourage Feeding category in the SWGYC model.

Even though the Public Health Policy does not appear in both models as a factor that contributes to a child becoming overweight, the Ecological model does refer to indirect factors from a Public Health Policy such as school lunch programs, accessibility of recreational facilities, and school physical education programs. The outcomes of this study also reveal that the policy from the Thai Ministry of Public Health may indirectly affect a child becoming overweight. Another difference between both models is that the Ecological model demonstrates factors that affect a child's weight status as a layer (child, family, and community), while the SWGYC model illustrates a process resulting from interaction or relationship among categories to explain why a child sustains an overweight status. Furthermore, the Ecological model is mostly focused on school age children, while the SWGYC model is focused more on infant/toddlers.

Implications for Nursing Care and Future Direction

Education

The outcome illustrated as a model (the relationships among categories as a theoretical model of sustaining the overweight status of young children) sheds light on the problem, so health care providers can better understand how and why young children are sustaining their overweight status. The more clearly healthcare providers understand the process of young children becoming overweight, the more prepared they will be in creating and implementing effective interventions or weight management programs. For example, the model illustrates that some variables such as Family Positive Perception, or the environment in the home, may be possible to adjust or change in order to encourage a child to attain a healthier weight. On the other hand, some variables such as a child's behavior and/or outside environment may be difficult to change. Therefore, weight management programs should focus on adjusting those variables that can be changed.

Practice

Various aspects of the outcomes of this research can be applied in practice to prevent children from becoming overweight. The findings show diverse Family Positive Perceptions are preventing caretakers and family members from providing adequate feeding for their child. Sometimes caretakers and family members may not have enough time during their child's wellness visit, or hesitate to speak up in front health care providers. A checklist of these perceptions could benefit health care providers in giving accurate advice or suggestions. With this checklist of perceptions, health care providers could better discuss with the caretakers or family members, just those items (Perceptions) that are a barrier to their child's weight control.

Furthermore, various researchers and the outcomes illustrated in this research show that caretakers tend to underestimate their child's weight status (Doolen, et al., 2009; Jones et al., 2011; Parkinson et al., 2011; Perrin et al., 2010; Manios et al., 2010; Jimenez-Cruz et al., 2010; Vuorela, Saha & Salo, 2010; Tschamler et al., 2010). The conflict occurs when healthcare providers and caretakers have different views, or standards for identifying a child's overweight status. These studies suggested the need to find methods in improving parental recognition of, and engagement in, the problem of child obesity. In the view of this researcher, it is difficult to establish programs to intervene in changing the caretakers' perceptions or standards. The outcomes of the study demonstrate that inappropriate feeding and overfeeding play pivotal roles in contributing to a child's overweight status.

It has also been demonstrated that almost all of the caretakers were more concerned with their child's health, rather than overweight status, but did not always make the connection between the two. Therefore, the aims of programs/interventions for younger overweight children should focus on healthy and adequate feeding based on age, rather than emphasizing weight control. Evaluations and regular follow-ups are needed to make these programs/interventions more consistent and effective. Because the children are younger, the confidence of caretakers in providing enough food based on their child's age is also important, and should be discussed with them if they are worried. These discussions benefit the caretakers or family members by keeping the strategy of their program consistent.

In addition, most of Thai society lives as an extended family, and its hierarchy is a complicated one. A caretaker may not be the key person who makes all the decision on

the rearing of a child. The key persons should be identified and discussions about programs or interventions should include them, and all other relevant family members.

Research

This research finding was developed as a model to better understand the phenomena of younger children who are overweight. To expand the knowledge of or to implement effective weight management programs, future research studies should be conducted, and are mentioned below.

The research findings demonstrate that LGA infants who fail to catch-down, and AGA/SGA children, who are quick to catch-up, could causative factors in a children being overweight in later years. In order to prevent children from becoming overweight at an early age, the data of catch-up and down growth of Thai infants are needed. Even though some data in Netherland (Taal et al., 2013) underscored that by six months most LGA, and SGA children would catch-up/catch-down their weight to be normal, with different countries/cultures and genetics, the outcomes may be different. Data from Thailand of proper catch-up and catch-down growth would help health care providers in following up with the target group, which are LGA children who fail to catch down or who are faster to catch-up.

Another benefit of studying catch-up and catch-down weight in Thailand is to make caretakers or family members more confident about the timeframe in which their child's weight would return to a more normal one. A larger baby will take some time to catch-down, and smaller children will take sometime to catch-up, but this timeframe will need to be determined with future research. Moreover, the research findings demonstrate that diverse Family Positive Perceptions are contributing to a child becoming overweight.

Future research should be conducted to explore more deeply those perceptions that are significant predictors of childhood obesity.

The outcome illustrated as a model (relationships among categories as a theoretical model of sustaining weight gain of young children) sheds light on the problem, so health care providers can better understand how categories interact with each other as a process, in the negative aspect of creating overweight children. Further research with a grounded theory approach should be conducted on school age children. An outcome as a model will expand the explanation of why children of this age group become overweight. Further research should also continue to follow-up with the previous caretakers and family members of the participants, as their children progress thru their school years. The outcome will be beneficial for health care providers to better understand why children become, or continue to be, overweight throughout their lives.

Furthermore, many caretakers stated that they gave up too easily, when following strategies to control their child's feeding, because they could not deal with a child's temperament, or tantrums/protests/crying for additional food. Therefore, more research should be conducted to clarify how long and consistent the caretakers need to be with these programs to be successful. The outcomes of further research will be used to help support caretakers and family members, and give them insights into how long to expect their children to resist the new program, and how to deal with these types of situations.

Various researchers have demonstrated that a child's feeding styles or typology feeding influences a child's weight status (Birch et al., 2003; Engle & Pelto, 2011; Hoerr et al., 2009; Hughes et al., 2008; Musher-Eizenman et al., 2009). For example unresponsive feeding (indulging, controlling, uninvolved) is positively related to

over/under feeding. On the other hand, responsive feeding (to hunger and satiety cues) might be able to reduce the problem of overweight children. Future researchers, focusing on typology feeding, may help tailor future weight management programs.

In addition, many research studies, and this research finding, demonstrate the relationship between caretakers' or family members' attitudes and perceptions, and a child's weight status. However, rarely have researchers explored health care providers' perceptions/attitudes in intervening when young children are overweight in Thailand. Future researchers need to explore health care providers' attitudes/perceptions more closely, as the information gathered may benefit or guide them more effectively in future weight management programs.

Policy

The research outcomes give health care providers, and involved stakeholders, information on how important it is to evaluate a child's nutritional status at an early age (toddler/preschooler). Hopefully, this research outcome can be useful as feedback to the Thai Ministry of Public Health, and with this feedback, maybe some policies can be adjusted. The policy that Thai children should be of healthy weight should also be promoted in children from one to three years of age. To serve a possible adjusted policy, primary health care providers should be required to measure children's weight and height, to record these data on a computer, and to share this information with the Thai Ministry of Public Health. In particular, if the policy had a clear goal of decreasing the percentage of young overweight children, primary healthcare providers would be able to implement more diverse weight management programs. This would serve the goal of reducing the prevalence of overweight children in Thai society.

Limitations

According to the methodology used, and this research study utilized Grounded Theory as a methodology to guide data collection and analysis, the limitations are that the findings may represent only one group or one area. The outcomes of this research study, which was developed as a model, could answer the question of why children who live in Bangkok and the surrounding areas have become overweight. In other words, the model that was developed from the findings of this research study may not fit in other areas, such as overweight children who live in the countryside or in other countries. Another limitation is that the journal writings, which were part of the data collection, were focused on only children's intake and activities, rather than reflecting on caretakers' thoughts or perceptions. This was due to the fact that Thai people are not accustomed to making a journal, or writing diaries.

Furthermore, these journal writings would typically include only regular meals/snacks a child ate per day, and would not include food that family members would share. In order to receive more accurate information, sometimes a call was made back to the participants to confirm any extra food that the children may have consumed, and was not recorded in the journal writings. Consequently, the calculation of calories from food intake might be more than what was recorded. In addition, the calories were calculated only on a child's food intake, based on type and amount of food that caretakers provided in their journal writing, and did not consider the child's physical activity level. It was difficult to record a child's daily activities or duration, and from interview and observations, it was assumed a child's activities were normal, and without any limitation. In summary, calculations were done using intake recorded and average calories spent

based on a child's weight for height.

Conclusion

Findings from this research demonstrate that the relationships among the categories in the theoretical model have a negative effect on a child's weight. Child-Feeding Practices plays a crucial role as a core category in the theoretical model, leading children to overfeeding and improper feeding based on their age. As a result they receive more calories than their bodies need, based on recommendations of the Thailand Department of Health. Two categories, Encouraged Feeding and Family Positive Perception, are related and initiate Child-Feeding Practices. Encouraged Feeding has the very negative effect of persuading caretakers or family members in maintaining the improper overfeeding habits of their children. Children who are characterized as impulsive eaters or who enjoy eating, encourage caretakers or family members to sustain overfeeding. Accessibility of food, and sharing of food by extended family members, is also increasing food intake.

Family Positive Perception, as it applies to feeding and growing, plays a pivotal role in sustaining Child-Feeding Practices. The perception, such as their child is not too overweight, or their overweight child is healthier than a thinner child, are preventing caretakers or family members from limiting feeding. Caretakers and family members perceive nutrition from food and formula as helping children to reach a desirable height when they are older. The persistence of their beliefs that their child is too young to limit feeding, and that their child will be thinner when in school, impede them from consistently implementing proper controlled feeding.

Even though caretakers and family members realize that their children are

heavier/ larger by holding them, being informed by health care providers, or by innocent greetings from neighbors/friends, they still have a very hard time changing their improper overfeeding habits. Various Controlled Feeding strategies have been tried, but these strategies are not intense or consistent enough to effect a change. Future interventions/ programs need to be conducted more so on younger children, and the programs/ interventions should focus on promoting children's healthy eating habits, rather than emphasizing on weight loss.

The caretaker's journal writing or descriptions with feeding patterns would be a benefit in evaluating child-feeding practices. The positive perceptions checklist would also be a valued tool to further investigate caretakers' perceptions. Lastly, the follow-up evaluations would be needed to continue the program. A policy of promoting healthy weight should be expanded, to include school age children and toddlers by the Ministry of Public Health, to effectively prevent children from becoming overweight.

APPENDIX A

IRB APPROVAL LETTERS

UNIVERSITY OF MASSACHUSETTE AMHERST IRB APPROVAL LETTER



University of Massachusetts Amherst
108 Research Administration Bldg.
70 Butterfield Terrace
Amherst, MA 01003-9242

**Research Compliance
Human Research Protection Office (HRPO)**
Telephone: (413) 545-3428
FAX: (413) 577-1728

Certification of Human Subjects Approval

Date: March 17, 2014
To: Jumpee Prasitchai, Nursing
Other Investigator: Edith Dundon, Nursing
From: Lynnette Leidy Sievert, Chair, UMASS IRB

Protocol Title: SOCIAL PROCESSES THAT INFLUENCE A CHILD BEING OVERWEIGHT IN THAILAND
Protocol ID: 2013-1894
Review Type: EXPEDITED - NEW
Paragraph ID: 5.6
Approval Date: 03/17/2014
Expiration Date: 03/16/2015
OGCA #:

This study has been reviewed and approved by the University of Massachusetts Amherst IRB, Federal Wide Assurance # 00003909. Approval is granted with the understanding that investigator(s) are responsible for:

Modifications - All changes to the study (e.g. protocol, recruitment materials, consent form, additional key personnel), must be submitted for approval in e-protocol before instituting the changes. New personnel must have completed CITI training.

Consent forms - A copy of the approved, validated, consent form (with the IRB stamp) must be used to consent each subject. Investigators must retain copies of signed consent documents for six (6) years after close of the grant, or three (3) years if unfunded.

Adverse Event Reporting - Adverse events occurring in the course of the protocol must be reported in e-protocol as soon as possible, but no later than five (5) working days.

Continuing Review - Studies that received Full Board or Expedited approval must be reviewed three weeks prior to expiration, or six weeks for Full Board. Renewal Reports are submitted through e-protocol.

Completion Reports - Notify the IRB when your study is complete by submitting a Final Report Form in e-protocol.

Consent form (when applicable) will be stamped and sent in a separate e-mail. Use only IRB approved copies of the consent forms, questionnaires, letters, advertisements etc. in your research.

Please contact the Human Research Protection Office if you have any further questions. Best wishes for a successful project.

**FACULTY OF MEDICINE RAMATHIBODI HOSPITAL IRB APPROVAL
LETTER (ENGLISH)**



คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล
๒๗๐ ถนนพระราม ๖ แขวงทุ่งพญาไท เขตราชเทวี กทม. ๑๐๔๐๐
โทร. (๐๒) ๒๐๑-๑๐๐๐

Faculty of Medicine Ramathibodi Hospital, Mahidol University.
270 Rama VI Road, Ratchathewi, Bangkok 10400, Thailand
Tel. (662) 201-1000

Documentary Proof of Ethical Clearance

**Committee on Human Rights Related to Research Involving Human Subjects
Faculty of Medicine Ramathibodi Hospital, Mahidol University**

MURA2014/196

Title of Project	A Grounded Theory Study of Social Processes that Influence a Child being Overweight in Thailand
Protocol Number	ID 04-57-02
Principal Investigator	Miss. Jumpee Prasitchai
Official Address	Ramathibodi School of Nursing Faculty of Medicine Ramathibodi Hospital Mahidol University

The aforementioned project has been reviewed and approved by the Committee on Human Rights Related to Research Involving Human Subjects, based on the Declaration of Helsinki.

Signature of Secretary
Committee on Human Rights Related to
Research Involving Human Subjects
Prof. Duangrudee Wattanasirichaigoon, M.D.

Signature of Chairman
Committee on Human Rights Related to
Research Involving Human Subjects
Prof. Pratak O-Prasertsawat, M.D.

Date of Approval April 28, 2014

Duration of Study 8 Months

**FACULTY OF MEDICINE RAMATHIBODI HOSPITAL IRB
APPROVAL LETTER (THAI)**



คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล
๒๗๐ ถนนพระราม ๖ แขวงทุ่งพญาไท เขตราชเทวี กทม. ๑๐๔๐๐
โทร. (๐๒) ๒๐๑-๑๐๐๐

Faculty of Medicine Ramathibodi Hospital, Mahidol University.
270 Rama VI Road, Ratchathewi, Bangkok 10400, Thailand
Tel. (662) 201-1000

**เอกสารรับรองโดยคณะกรรมการจริยธรรมการวิจัยในคน
คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี
มหาวิทยาลัยมหิดล**

เลขที่ ๒๕๕๗/๑๙๖

ชื่อโครงการ	ศึกษากระบวนการทางสังคม ที่มีผลให้เด็กมีน้ำหนักเกินมาตรฐานในประเทศไทย โดยใช้ทฤษฎีรากฐาน (Grounded theory)
เลขที่โครงการ/รหัส	ID ๐๔-๕๗-๐๒ ย
ชื่อหัวหน้าโครงการ	นางสาวจำปี ประสิทธิ์ชัย
ที่ทำงาน	โรงเรียนพยาบาลรามาธิบดี คณะแพทยศาสตร์ โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล

ขอรับรองว่าโครงการดังกล่าวข้างต้นได้ผ่านการพิจารณาเห็นชอบโดยสอดคล้องกับแนวปฏิบัติฯ เหล่าซึ่งก
จากคณะกรรมการจริยธรรมการวิจัยในคน คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี

ลงนาม _____
กรรมการและเลขานุการจริยธรรมการวิจัยในคน (ศาสตราจารย์ แพทย์หญิงดวงฤดี วัฒนศิริชัยกุล)

ลงนาม _____
ประธานกรรมการจริยธรรมการวิจัยในคน (ศาสตราจารย์ นายแพทย์ประทัษ โปประเสริฐสวัสดิ์)

วันที่รับรอง ๒๘ เมษายน ๒๕๕๗

ระยะเวลาในการศึกษา ๘ เดือน

APPENDIX B

SCRIPT FOR PARTICIPANT RECRUITMENT (ENGLISH)

Hello, my name is Xxxxx Xxxxx I am a nurse at the Pediatric Out Patient Department, Ramathibodi hospital. I would like to invite you to participate in Jumpee's research study about young overweight children. Jumpee is researcher and a nursing instructor at this hospital and currently she is studying Ph.D program. Please read the entry form. If you want more information or would like to participate in the study, please check "YES" and will let you meet with the researcher. If you are not interested in participating, please check "NO." Your decision will have no effect on the care you receive at Ramathibodi hospital.

Thank you for your time!

SCRIPT FOR PARTICIPANT RECRUITMENT (THAI)

บทพูดของพยาบาลในการรับสมัครผู้เข้าร่วมวิจัย

สวัสดีค่ะ ดิฉันชื่อ..... เป็นพยาบาลอยู่แผนก ผู้ป่วยเด็กนอก โรงพยาบาลรามารินทร์ คือตอนนี้อาจารย์จำปี ประสิทธิ์ชัย ซึ่งเป็นอาจารย์พยาบาลของโรงพยาบาล กำลังศึกษาปริญญาเอก และอาจารย์สนใจทำวิจัย เรื่องเด็กที่มี น้ำหนักเกินมาตรฐาน ซึ่งพยาบาลขอเรียนเชิญคุณแม่เข้าร่วมวิจัย ในครั้งนี้กับอาจารย์จำปี ยังไงคุณแม่อ่านรายละเอียดก่อนได้ ถ้าสนใจให้คุณแม่ กาะเครื่องหมายถูก ที่ช่อง “ยินดีเข้าร่วมวิจัย” แล้วเอากลับมาให้พยาบาล เดียวพยาบาล จะให้คุณแม่คุยข้อมูลเพิ่มเติม กับอาจารย์จำปี แต่ถ้าคุณแม่ไม่สะดวกเข้าร่วมวิจัยให้ กาะเครื่องหมายถูกในช่อง “ปฏิเสธเข้าร่วมวิจัย” คุณแม่ตัดสินใจ ตามสบายเลยนะคะ การตัดสินใจของคุณแม่จะไม่มีผลต่อการให้บริการสุขภาพของน้อง

ขอบคุณนะคะที่ให้ความสนใจ

APPENDIX C

RESEARCH PARTICIPANT RECRUITER (ENTRY FORM) (ENGLISH)

Jumpee Prasitchai is conducting a research study about what influences a child's weight status. You are invited to participate in her research project. If you participate in this project you will be interviewed twice, including three observation sessions. The researcher will conduct her first observation while you are waiting to see your child's doctor (approximately 40- 60 minutes). If it is convenient the first interview including observation can be conducted after your clinic visit has been completed. If it is not convenient, two interviews including observations will be conducted at your house. The first interview including observation will last 60-90 minutes. The second interview including observation will last 30-45 minutes. The second interview will follow the first interview in one week. The interviews and the observations are about interaction between you and your child. You will be asked to spend 15 minutes each day (three days total), keeping a written journal, detailing how you interact and provide for your child.

Would you be willing to speak with the researcher about participating in the study?

Yes, I want more information, or I am willing to take part.

No, I am not interested in the study.

*You will receive \$5 compensation for participation in this study.

RESEARCH PARTICIPANT (ENTRY FORM) (THAI)

ใบแสดงความสนใจในการเข้าร่วมการวิจัย

อาจารย์พยาบาล จำปี ประสิทธิ์ชัย กำลังศึกษาวิจัย เรื่อง กระบวนการสังคมที่มีผลให้เด็กมีน้ำหนักเกินมาตรฐาน ท่านได้รับเชิญ ให้เข้าร่วมวิจัยในครั้งนี้ ถ้าท่านเข้าร่วมวิจัยในครั้งนี้ ท่านจะถูกสัมภาษณ์ สองครั้ง และจะถูกสังเกต สองถึงสามครั้ง ผู้วิจัยจะสังเกตท่านครั้งแรก ระหว่างท่านรอพบแพทย์ (ซึ่งจะใช้เวลา ประมาณ 40-60 นาที) ถ้าท่านสะดวก ผู้วิจัยจะสัมภาษณ์ท่าน ครั้งแรกพร้อมทั้งสังเกต ท่านหลังจากท่านพบแพทย์เรียบร้อยแล้ว แต่ถ้าท่านไม่สะดวก การสัมภาษณ์ ทั้งสองครั้งพร้อมการสังเกตจะนัดหมายที่บ้านท่าน การสัมภาษณ์ครั้งแรก พร้อมการสังเกต จะใช้เวลาประมาณ 60-90 นาที การสัมภาษณ์ครั้งแรกและครั้งที่สองห่างกัน 1 อาทิตย์การสัมภาษณ์ และการ สังเกตครั้งที่สอง จะใช้เวลาประมาณ 30-45 นาที และท่านจะใช้เวลาประมาณ 15 นาทีเขียนบันทึกประจำวัน เกี่ยวกับการเลี้ยงดูบุตร, อาหาร, กิจกรรม และ ปฏิสัมพันธ์ ระหว่างท่านกับบุตร เป็นเวลาสามวันติดกัน

ท่านเต็มใจที่จะ พุดคุยในรายละเอียดเกี่ยวกับการเข้าร่วมวิจัย หรือไม่

- ยินดีเข้าร่วมวิจัย
- ปฏิเสธเข้าร่วมวิจัย

* ท่านจะได้รับค่าตอบแทน จากการร่วมวิจัยเป็นเงิน 160 บาท

APPENDIX D

SCRIPT FOR APPROACHING PARENTS/CARETAKERS (ENGLISH)

Hello, my name is Jumpee Prasitchai, I am a nursing instructor at this hospital and current I am studying doctoral program in the School of Nursing at the University of Massachusetts Amherst. I am conducting a research study about overweight children and what is the process impacted them sustain their weight. The purpose of my research is to understand the process that overweight children sustain their weight gain. You are eligible to take part in my research study. You are a primary care of your child who has higher than 97 percentile of growth chart adjusted by their height and gender, and your child has no chronic disease affected his/her weight status.

There are three parts to the study, if you agree to participate in. First of all you will receive 2 interviews including observations either hospital or at home. If you are convenient I want to visit you at home at least one time for interview. I will record the interview to make sure that I receive all of information. You may receive an observation at least one time at the hospital while you are waiting to meet your child's doctor. The interview is about how you take care of your child and your perceptions. Second, you are required to write journal writing in 3 days about your child's intake and his/her activities. Finally, I will review and take note on your child health record at the hospital including his/her health history, family history, weight status, and advice or suggestion from a doctor. (You can read more information on Patient/Participant information sheet)

To maintain your confidentiality, you will be given a false name for the study which will be used so that all information obtained from you will be treated in a non-identifiable, confidential manner. Your participation is voluntary. You can stop any observation or interview if you want to, and you can withdraw at any time without affect on your care.

Do you have any question? Please feel free to make decision, and your decision will not affect you child's care. If you decide to participate in the research study, I will set time to meet.

SCRIPT FOR APPROACHING PARENTS/CARETAKERS (THAI)

บทพูดในการให้ข้อมูล กับผู้ที่สนใจที่จะเข้าร่วมวิจัย

สวัสดีค่ะคุณแม่ ดิฉัน ชื่อจำปี ประสิทธิ์ชัย เป็นอาจารย์พยาบาล อยู่ที่โรงพยาบาลรามธิบดี ตอนนี้กำลังศึกษาต่อปริญญาเอกที่ อเมริกา มหาวิทยาลัย แมสซาชูเซต ดิฉันสนใจศึกษาวิจัย เกี่ยวกับเด็กมีน้ำหนัก เกินมาตรฐาน จุดประสงค์ของการวิจัยในครั้งนี้ เพื่อศึกษาถึง ปัจจัยและกระบวนการที่ทำให้เด็กมีน้ำหนักเกินมาตรฐาน คุณแม่สามารถเข้าร่วมวิจัยกับ พยาบาลได้ คือคุณแม่เป็นหลักในการเลี้ยงดูลูก และ ลูกคุณแม่เริ่มมีน้ำหนักเกินมาตรฐาน และไม่มีโรคประจำตัวที่กระทบต่อน้ำหนัก

การเข้าร่วมวิจัยจะแบ่งเป็นสามส่วน ส่วนแรก พยาบาลจะสัมภาษณ์คุณแม่สองครั้งพร้อมทั้งสังเกตเรื่องการเลี้ยงดู จะที่โรงพยาบาล หรือที่บ้านก็ได้ แต่ถ้าคุณแม่สะดวกพยาบาลอยากไปเยี่ยมน้องแค่สักครั้งที่บ้าน และพยาบาลจะขออัดเทประหว่างการสัมภาษณ์ เพื่อมั่นใจว่าได้ข้อมูลครบถ้วน ถ้ามีโอกาสพยาบาลอาจจะขอสังเกตคุณแม่กับน้องหนึ่งครั้งระหว่างที่คุณแม่รอพบแพทย์ที่โรงพยาบาล ส่วนที่สองพยาบาลจะรวบรวมให้คุณแม่เขียนบันทึกประจำวัน ติดกันสักสามวัน บันทึกเกี่ยวกับอาหาร กิจกรรมของน้องและการ เลี้ยงดูอื่นๆ ในส่วนที่สามพยาบาลจะขอจดบันทึกเพิ่มประวัติการรักษาของน้องที่ โรงพยาบาล เกี่ยวกับประวัติสุขภาพ การเจ็บป่วยในอดีต ประวัติสุขภาพ ในครอบครัว และคำแนะนำต่างๆของแพทย์

พยาบาลจะเก็บข้อมูลต่างๆเป็นความลับ จะแสดงข้อมูลเป็นส่วนรวม ในการรายงานผลและจะไม่เปิดเผยชื่อจริงของน้อง ในการเข้าร่วมกิจกรรมครั้งนี้ เป็นไปตามความสมัครใจคุณแม่ คุณแม่สามารถหยุดการเข้าร่วมวิจัยได้ทุกเมื่อถ้ารู้สึกไม่สะดวกใจ

คุณแม่มีคำถามอื่นๆ จะถามไม่มีคะ คุณแม่ตัดสินใจได้ตามสบายเลยนะคะ การตัดสินใจของคุณแม่จะไม่มีผลต่อการให้บริการสุขภาพของน้อง ถ้าคุณแม่ตัดสินใจเข้าร่วมวิจัย พยาบาลจะนัดหมายวันที่คุณแม่สะดวกที่จะให้สัมภาษณ์

APPENDIX E

PATIENT/PARTICIPANT INFORMATION SHEET (ENGLISH)

Study Title: A Grounded Theory Study of Social Processes that Influence a Child being Overweight in Thailand.

Research: Jumpee Prasitchai.

Setting: Outpatient Department, Ramathibodi hospital and participants' home.

Person to contact in case of emergency:

If you have further questions about this project, or you have a research-related problem, you can contact the researcher, Jumpee Prasitchai (jp_psc@hotmail.com. 09922849070).

Funding Agency: -

Significance of the research study:

In the past decade, the prevalence of overweight/obese children has increased around the world. Thailand has also encountered this problem, in particular larger cities such as Bangkok, Chiang Mai, and Hat Yai. Children who become overweight/obese can have various physical and mental illnesses. Diverse factors have been studied that have shown to contribute to a child becoming overweight such as genetic, environment, eating behavior, sedentary behavior, excessive video game playing and Internet usage. Transforming from an agricultural to a metropolitan city and following a more western lifestyle is also contributing to children becoming overweight. Health care providers have conducted various weight management programs aimed at decreasing the prevalence of childhood obesity. Most programs that were conducted on school-aged children, failed to succeed in their long-term goals. More studies are needed on younger aged children, to pursue the long-term goal of effectively controlling the prevalence of childhood obesity. It is hard for school aged children to change their lifestyles later in life, these healthy habits need to be developed at an earlier age. Therefore, the researcher is interested in studying the process that leads to a child becoming overweight.

The purpose of the research study: to explore factors that is contributing to overweight children.

What will a participant be asked to do, where will the study take place, and how long it will last:

If you agree to take part in this study you will be asked to complete a demographic questionnaire. You will be interviewed to gather information on your thoughts, your feelings, and your interactions between you and your child. Please feel free to express yourself, there are no wrong answers, and you may skip any questions you feel uncomfortable answering. You will be asked to spend at least 15 minutes daily to make entries in a journal, over a three-day period. The journal entries are to show your child's daily food consumption and their physical activities.

In this study, two individual interviews by the researcher will take place with each participant. If the participants agree to take part in the study, the first interview may take place at the POPD after their clinic visit has been completed. The second interview will occur at each participant's house. If it is not convenient for some participants to give the first interview at the hospital, the first and second interviews will be arranged at the participants' home. The second interview will follow the first, usually about a week after the first interview. The purpose of the second interview is to validate and add to the information from the first interview. The first interview will last 60 to 90 minutes in each case. Participants will spend approximately 15 minutes daily to write entries in a journal. The journal writings will start after the participants complete the first interview. The journal entries should be made for at least three days; including at least one weekday, and one day on the weekend. Your child's health history record will be reviewed at the hospital by the researcher. The review will be focused on your child's health history, family health history, and advice/suggestions from health care providers including other weight management programs.

The benefits and risk of being in this study:

You may not directly benefit from this research; however, we hope that your participation in the study may help the researcher understand the prevalence of overweight children. This study will help healthcare providers by contributing to their advanced knowledge, and to better design weight management programs for overweight children. It would also guide further studies to develop appropriate and effective health education programs that would help prevent children from becoming overweight.

We believe there are no known risks associated with this research study; however, a possible inconvenience may be the time it takes to complete this study.

Protection system of your personal information:

The following procedures will be used to protect the confidentiality of your study records. The researchers will keep all study records, including any codes to your data, in a secure location in a locked cabinet at the Ramathibodi Nursing School. Research records will be labeled with a code. A master key that links names and codes will be maintained in a separate and secure location. The master key and audiotapes will be destroyed after the study has been completed and published, this process will be completed in approximately 3 years (2016). All electronic files that are used, such as databases, spreadsheets, etc. containing identifiable information will be password protected. Any computer hosting such files will also have password protection to prevent access by unauthorized users. Only the members of the research staff will have access to the passwords. At the conclusion of this study, the researchers may publish their findings. Information will be presented in summary format and you will not be identified in any publications or presentations. The participants' anonymity will be maintained.

If you have any questions concerning your participation in this research study, please contact the committee for human research protection, the office of human research, research and welfare building, Ramathibodi hospital, 02-2011544.

PATIENT/PARTICIPANT INFORMATION SHEET (THAI)

เอกสารประกอบ



เอกสารชี้แจงข้อมูล/คำแนะนำแก่ผู้เข้าร่วมการวิจัย (Patient/Participant Information Sheet)

ชื่อโครงการ ศึกษากระบวนการสังคมที่มีผลให้เด็กมีน้ำหนักเกินมาตรฐานในประเทศไทย โดยใช้
ทฤษฎีรากฐาน (Grounded Theory)

ชื่อผู้วิจัย นางสาว จำปี ประสิทธิ์ชัย

สถานที่วิจัย หน่วยตรวจผู้ป่วยนอกเด็ก โรงพยาบาลรามารามิบัติ และ บ้านผู้เข้าร่วมวิจัย

บุคคลและวิธีการติดต่อเมื่อมีเหตุฉุกเฉินหรือความผิดปกติที่เกี่ยวข้องกับการวิจัย

ถ้าท่านมีข้อสงสัยในภายหน้าหรือมีปัญหาที่เกี่ยวข้องกับการวิจัย ท่านสามารถติดต่อกับผู้วิจัย

ได้ตลอดเวลาที่ จำปี ประสิทธิ์ชัย หมายเลขโทรศัพท์ 0894401142 และ email:

jp_psc@hotmail.com

ผู้สนับสนุนการวิจัย -

ความเป็นมาของโครงการ

ในช่วงทศวรรษที่ผ่านมาอัตราเด็กที่มีน้ำหนักเกินมาตรฐานและเด็กอ้วนเพิ่มขึ้นทั่วโลก
รวมถึงประเทศไทยโดยเฉพาะเมืองใหญ่ๆ เช่น กรุงเทพฯ เชียงใหม่ และหาดใหญ่ โรคอ้วน
เป็นสาเหตุทำให้เกิดโรคต่างๆ ซึ่งส่งผลกระทบต่อสุขภาพ ทั้งร่างกายและจิตใจ มีสาเหตุต่างๆ
ที่ส่งเสริมให้เด็กมีน้ำหนักเกินมาตรฐาน เช่น พันธุกรรม สิ่งแวดล้อม การเลี้ยงดู พฤติกรรมการ
กินที่ไม่ถูกสุขลักษณะ ขาดการออกกำลังกาย และใช้เวลาในการเล่นเกมส์ และอินเทอร์เน็ต
มากเกินไป การเปลี่ยนแปลงของสังคมจากประเทศเกษตรกรรม ไปสู่ประเทศอุตสาหกรรม
และการใช้ชีวิต แบบตะวันตกก็เป็นส่วนสนับสนุนให้เกิดโรคอ้วน บุคลากรทางสาธารณสุขต่างๆ
ได้พยายามทดลองโปรแกรมการควบคุมน้ำหนัก เพื่อลดอัตราการเกิดภาวะน้ำหนักเกิน
มาตรฐานในเด็ก ซึ่งโปรแกรมส่วนใหญ่ทดลองในเด็กวัยเรียนซึ่งขาดความสำเร็จในระยะยาว
มีการวิจัยส่วนน้อยที่ศึกษาในเด็กเล็ก ซึ่งถือว่าเป็นช่วงสำคัญในชีวิต ที่เด็กจะสร้างแบบ
แผนพฤติกรรมกินและการทำกิจกรรม ซึ่งเมื่อโตขึ้นจะยากที่จะเปลี่ยนแบบแผนดังกล่าว
ดังนั้น ผู้วิจัยจึงสนใจศึกษาปัจจัยต่างๆ ที่มีผลต่อเด็กเล็กที่มีน้ำหนักเกินมาตรฐาน

วัตถุประสงค์ เพื่อศึกษากระบวนการทางสังคมซึ่งมีผลทำให้เด็กมีน้ำหนักเกินมาตรฐาน

รายละเอียดที่จะปฏิบัติต่อผู้เข้าร่วมการวิจัย

ถ้าท่านเข้าร่วมวิจัย ท่านจะต้องตอบแบบสอบถาม ข้อมูลส่วนบุคคล เช่น อายุ อาชีพ และรายได้
ท่านจะถูกสัมภาษณ์ สองครั้ง และ ถูกสังเกตสามครั้ง โดยผู้วิจัย และการสัมภาษณ์จะถูกบันทึกเทป
โดยท่านและบุตรจะถูกสังเกตครั้งแรก ขณะที่ท่านรอพบแพทย์

ถ้าท่านสะดวก ผู้วิจัยจะสัมภาษณ์ท่านครั้งแรก (รวมถึงสังเกตครั้งที่สอง) หลังจากท่านพบแพทย์ และการสัมภาษณ์ครั้งที่สอง (รวมถึงการสังเกตครั้งที่สาม) จะนัดหมาย ที่บ้านท่าน

(ในกรณีถ้าท่านไม่สะดวกให้สัมภาษณ์ครั้งแรกที่โรงพยาบาล การสัมภาษณ์ทั้งสองครั้ง (รวมถึงการสังเกตครั้งที่สองและครั้งที่สาม) จะนัดหมายที่บ้านท่าน

การสัมภาษณ์ครั้งที่สองจะห่างจากครั้งแรก หนึ่งอาทิตย์ การสัมภาษณ์ครั้งแรกใช้เวลาประมาณ 60-90 นาที ครั้งที่สองใช้เวลา 30-45 นาที การสัมภาษณ์ครั้งแรกและครั้งที่สองจะห่างกันหนึ่งสัปดาห์ ในการสัมภาษณ์ ผู้วิจัยจะถามท่านหลายคำถามเกี่ยวกับการเลี้ยงดูบุตรซึ่งสะท้อนความคิด ความรู้สึก และพฤติกรรม ระหว่างท่านและบุตร ท่านสามารถปฏิเสธที่จะไม่ตอบคำถามที่ท่านรู้สึกไม่สะดวก ที่จะตอบ ส่วนการสังเกตจะเกี่ยวข้องกับปฏิสัมพันธ์ ระหว่างท่านกับบุตร ในการดูแลเลี้ยงดู เรื่องอาหารและ กิจกรรมต่างๆ นอกจากนี้ ผู้วิจัย จะขอให้ท่านเขียนบันทึกเกี่ยวกับ การเลี้ยงดูบุตรในแต่ละวัน ประมาณวันละ 15 นาที ติดต่อกันเป็นเวลา 3 วัน และผู้วิจัยจะอ่านแฟ้มประวัติสุขภาพของบุตรท่าน เกี่ยวกับ ประวัติสุขภาพ ประวัติสุขภาพในครอบครัว และโปรแกรมการควบคุมน้ำหนักรวมถึง คำแนะนำต่างๆ จากเจ้าหน้าที่สุขภาพ

ประโยชน์และผลข้างเคียงที่จะเกิดแก่ผู้เข้าร่วมการวิจัย

ท่านอาจจะไม่ได้รับผลประโยชน์ทางตรงจากการวิจัย แต่ความร่วมมือของท่าน จะทำให้ผู้วิจัยมีความรู้ความเข้าใจมากขึ้นเกี่ยวกับ สาเหตุต่างๆที่ทำให้เด็กมีน้ำหนักเกินมาตรฐาน นอกจากนี้ผลของการศึกษาวินิจฉัย ยังช่วยให้ เจ้าหน้าที่ทางสุขภาพและนักวิจัย สามารถออกแบบโครงการต่างๆ ที่จะช่วย ลดจำนวน เด็กที่มีน้ำหนักเกินมาตรฐาน ได้อย่างมีประสิทธิภาพมากขึ้น และเป็นแนวทางสำหรับการศึกษาต่อไปที่จะพัฒนาโปรแกรมให้ความรู้ เพื่อป้องกันภาวะน้ำหนักเกินในเด็ก

ท่านจะไม่มีความเสี่ยงใดๆในการเข้าร่วมวิจัย เพียงแต่ท่านจะใช้เวลาในการถูกสัมภาษณ์และเขียนบันทึก...

การเก็บข้อมูลเป็นความลับ

ข้อมูลทุกอย่างในการวิจัยที่เกี่ยวข้องกับท่าน จะถูกเก็บไว้ในสถานที่ปลอดภัย ที่ผู้เก็บเอกสารและมีกุญแจล็อกที่โรงเรียนพยาบาลรามาธิบดี การบันทึกข้อความต่างๆจะเปลี่ยนเป็นรหัสเพื่อใช้ในการวิเคราะห์ข้อมูล และรหัสต่างๆ รวมถึงข้อมูลที่เกี่ยวข้องกับผู้เข้าร่วมวิจัย จะถูกเก็บแยกไว้ในตู้ล็อกที่ โรงเรียนพยาบาลรามาธิบดี นอกจากนี้ ข้อมูลทุกอย่างทางอิเล็กทรอนิกส์ซึ่งถูกเก็บไว้ในคอมพิวเตอร์จะมีรหัสในการเข้าใช้งาน ซึ่งจะเข้าใช้งาน ได้เฉพาะผู้วิจัย และผู้เกี่ยวข้องเท่านั้น ข้อมูลทั้งหมดและ เทปที่บันทึกจะถูก ทำลายเมื่อการวิจัยเสร็จสิ้น และวิจัย ได้รับการตีพิมพ์ คาดว่าแล้วเสร็จภายใน 3 ปี (ปีพ.ศ. 2559) ผลการวิจัยที่ ถูกตีพิมพ์ หรือการนำเสนอ งานวิจัย ในที่ต่างๆ จะนำเสนอในภาพรวม ไม่มีชื่อจริงของผู้เข้าร่วมวิจัย จะมีเพียงชื่อสมมติเท่านั้น.....

ถ้าท่านมีปัญหาข้อใจหรือรู้สึกกังวลใจกับการเข้าร่วมในโครงการวิจัยนี้ ท่านสามารถติดต่อกับประธานกรรมการจริยธรรมการวิจัยในคน สำนักงานวิจัยคนชะ ยาการวิจัยและสวัสดิการ คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี โทรศัพท์ 02-2011544

APPENDIX F

**INFORMED CONSENT FORM
(ENGLISH)**

Study Title: A Grounded Theory Study of Social Processes that Influence a Child being Overweight in Thailand.

Research: Jumpee Prasitchai.

*Participant First Name.....Last name.....Age.....years

My name isI received all information pertaining to this study, including any benefits and risks associated with my participation. I understand if I have any concerns about this research study, that I can ask the researcher. I understand that I am allowed to stop my participation in this research study at anytime, without affecting the quality of the health care service that I currently receive. Furthermore, it is understood that the researcher will keep my information confidential, and that no names or identifying information will be used in the research study, or other academic presentations.

Name.....(Participant)
.....(Witness)
.....(Witness)

Date.....

Researcher's explanation

I have explained all information clearly to the participant of this research study, including the benefits and risks that the participant may receive during their participation.

Name.....(Researcher)
Date.....

Note : If the participant is not able to read, the researcher must read this form to her/him. If the participant agrees to take part in this research study, then the participant will then use their fingerprint on this form instead of a signature.

*A participant is identified as someone who is willing to participate in this research study.

INFORMED CONSENT FORM (THAI)

เอกสารประกอบ



หนังสือยินยอมโดยได้รับการบอกกล่าวและเต็มใจ (Informed Consent Form)

ชื่อโครงการ ศึกษากระบวนการทางสังคมที่มีผลให้เด็กมีน้ำหนักเกินมาตรฐานในประเทศไทย
โดยใช้ทฤษฎีรากฐาน (Grounded Theory)

ชื่อผู้วิจัย นางสาว จำปี ประสิทธิ์ชัย

*ชื่อผู้เข้าร่วมการวิจัย

อายุ เลขที่เวชระเบียน

คำยินยอมของผู้เข้าร่วมการวิจัย

ข้าพเจ้า นาย/นาง/นางสาว

ได้ทราบรายละเอียดของโครงการวิจัยตลอดจนประโยชน์

และข้อเสี่ยงที่จะเกิดขึ้นต่อข้าพเจ้าจากผู้วิจัยแล้วอย่างชัดเจน

ไม่มีสิ่งใดปิดบังซ่อนเร้นและยินยอมให้ทำการวิจัยในโครงการที่มีข้อข้างต้น

และข้าพเจ้ารู้ว่าถ้ามีปัญหาหรือข้อสงสัยเกิดขึ้นข้าพเจ้าสามารถสอบถามผู้วิจัยได้

และข้าพเจ้าสามารถไม่เข้าร่วมโครงการวิจัยเมื่อใดก็ได้ โดยไม่มีผลกระทบต่อการรักษาที่ข้าพเจ้าพึงได้รับ

นอกจากนี้ผู้วิจัยจะเก็บข้อมูลเฉพาะเกี่ยวกับตัวข้าพเจ้าเป็นความลับและจะเปิดเผยได้เฉพาะในรูปแบบที่เป็นสรุปผล

การวิจัย การเปิดเผยข้อมูลเกี่ยวกับตัวข้าพเจ้าต่อหน่วยงานต่างๆที่เกี่ยวข้อง

กระทำได้เฉพาะกรณีจำเป็นด้วยเหตุผลทางวิชาการเท่านั้น

ลงชื่อ.....(ผู้เข้าร่วมการวิจัย)

.....(พยาน)

.....(พยาน)

วันที่

คำอธิบายของแพทย์หรือผู้วิจัย

ข้าพเจ้าได้อธิบายรายละเอียดของโครงการ ตลอดจนประโยชน์ของการวิจัย

รวมทั้งข้อเสี่ยงที่อาจเกิดขึ้นแก่ผู้เข้าร่วมการวิจัยทราบแล้วอย่างชัดเจนโดยไม่มีสิ่งใดปิดบังซ่อนเร้น

ลงชื่อ.....(แพทย์หรือผู้วิจัย)

วันที่.....

หมายเหตุ : กรณีผู้เข้าร่วมการวิจัยไม่สามารถอ่านหนังสือได้ ให้ผู้วิจัยอ่านข้อความในหนังสือยินยอมฯ
นี้ให้แก่ผู้เข้าร่วมการวิจัยฟังจนเข้าใจดีแล้ว

และให้ผู้เข้าร่วมการวิจัยลงนามหรือพิมพ์ลายนิ้วหัวแม่มือรับทราบในการให้ความยินยอมดังกล่าวข้างต้นไว้ด้วย

* ผู้เข้าร่วมการวิจัย หมายถึง ผู้ยินยอมตนให้ทำวิจัย

APPENDIX G

**INFORMED CONSENT OF INTERVIEW AND OBSERVATION DISCLOSURE
RAMATHIBODI HOSPITAL (ENGLISH)**

Date.....Month.....Year.....

First NameLast Name.....Age.....years,
Address..... Street Sub District.....
District Province.....Zip Code.....

I give consent to Jumpee Prasitchai, who is the researcher and an employee of Ramathibodi hospital, Mahidol university, to publicize my information, gathered from intreviews, observations and jounal writings fromto (date/month/year)..... The publication or other academic presentations are only to benefit better health care, and for future research study.

Jumpee Prasitchai who is the researcher and employee of Ramathibodi hospital, Mahidol university will not disclose my name or my address in her publication or other academic presentations.

I've recieved all information from the researcher and I also understand my benefits and risks in taking part in this research study. I haved sign my name below in front of two witnesses to confirm, and verify my consent.

(Name).....(Participant)

(.....)

(Name).....(Witness)

(.....)

(Name).....(Witness)

(.....)

INFORMED CONSENT OF INTERVIEW AND OBSERVATION DISCLOSURE
RAMATHIBODI HOSPITAL (THAI)



เอกสารประกอบ

คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี
หนังสือแสดงความยินยอมโดยได้รับการบอกกล่าว
ให้เปิดเผยข้อมูลเกี่ยวกับการรักษาพยาบาล

วันที่ ____ เดือน _____ พ.ศ. _____

ข้าพเจ้า (นาย/นาง/นางสาว)
(ผู้ให้ความยินยอม) อายุปี อยู่เลขที่.....ต.รอก/ซอย..... ถนน.....
.....ตำบล/แขวง อำเภอ/เขต..... จังหวัด.....
.....รหัสไปรษณีย์.....ขอแสดงความยินยอมให้
(นาย/นาง/นางสาว) จำปี ประสิทธิ์ชัย ซึ่งเป็นผู้วิจัยและเป็นบุคลากรในสังกัดคณะแพทยศาสตร์
โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดลนำข้อมูลของข้าพเจ้าที่เกิดจากการสัมภาษณ์ การสังเกต
และการเขียนบันทึก ระหว่างวันที่.....เดือน..... พ.ศ.....ถึงวันที่.....เดือน.....
พ.ศ..... ณ ไปตีพิมพ์ หรือเผยแพร่โดยวิธี
อื่นใด เพื่อประโยชน์ในทางวิชาการ หรือเพื่อประโยชน์ทางการแพทย์เท่านั้น
ทั้งนี้ (นาย/นาง/นางสาว) จำปี ประสิทธิ์ชัย ซึ่งเป็นผู้วิจัยและเป็นบุคลากรในสังกัดคณะ
แพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล จะไม่เปิดเผยชื่อ-นามสกุล และที่อยู่ของข้าพเจ้า
ในรายงานทางวิชาการหรือในการเผยแพร่โดยวิธีอื่นดังกล่าวข้างต้น
อนึ่ง ข้าพเจ้าได้รับการอธิบายจากแพทย์หรือผู้วิจัยเกี่ยวกับการเปิดเผยข้อมูลของข้าพเจ้าเพื่อ
ประโยชน์ในทางวิชาการหรือเพื่อประโยชน์ทางการแพทย์โดยละเอียดแล้วจึงได้ลงลายมือชื่อไว้เป็นสำคัญ
ต่อหน้าพยาน

(ลงชื่อ).....(ผู้ให้ความยินยอม)
(.....)

(ลงชื่อ).....(พยาน)
(.....)

(ลงชื่อ).....(พยาน)
(.....)

APPENDIX H

**CONSENT FORM OF HEALTH HISTORY DISCLOSURE FOR CHILDREN
RAMATHIBODI HOSPITAL (ENGLISH)**

Date.....Month.....Year.....

First Name.....Last Name.....

Relationship to the child.....Age.....years, Address.....

street Sub District.....District

..... Province.....Zip Code.....

I am the guardian/parent of the child (Name of Child:.....)

and I give consent to Jumpee Prasitchai, who is the researcher and an employee of Ramathibodi hospital, Mahidol university, to review and publicize my child's health history from (date/month/year).....to.....)

The review and publication are only for the benefit of better health care, and for future research study.

Jumpee Prasitchai who is the researcher and employee of Ramathibodi hospital, Mahidol university will not disclose my child's name or address in her publication or any academic presentations.

I have recieved all information from the researcher and I understand my benefits and risks for taking part in this research study. I have signed my name below in front of a witness to confirm and verify my consent.

(Name).....(father) (Name).....(mother)

(.....) (.....)

(Name).....(witness)

(.....)

.....
* Children are identified as any person less than 20 years of age, and a parent must sign the consent form for them (him/her). If a child is age between 15-20 years, he/she also has to sign their name on the consent form.

CONSENT FORM OF HEALTH HISTORY DISCLOSURE FOR CHILDREN
RAMATHOBODI HOSPITAL (THAI)

เอกสารประกอบ



คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี
หนังสือแสดงความยินยอมโดยได้รับการบอกกล่าว
ให้เปิดเผยข้อมูลเกี่ยวกับการรักษาพยาบาล
กรณีที่เจ้าของข้อมูลเป็นผู้เยาว์*

วันที่.....เดือน.....พ.ศ.....

ข้าพเจ้า (บิดา/มารดา)

อายุ.....ปี อยู่เลขที่..... ตรอก/ซอย..... ถนน.....

ตำบล/แขวง.....อำเภอ/เขต.....จังหวัด.....รหัสไปรษณีย์.....

ซึ่งเป็นผู้มีอำนาจให้ความยินยอมแทน (ด.ช./ด.ญ)

โดยเกี่ยวข้องกับเจ้าของข้อมูลในฐานะ..... ขอแสดงความยินยอมให้ นางสาว จำปี ประสิทธิ์ชัย

ซึ่งเป็นผู้วิจัยและ บุคลากรในสังกัด คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล

นำข้อมูลเกี่ยวกับการรักษาพยาบาลของ (ด.ช./ด.ญ.) ที่เกิดขึ้น

ระหว่าง วันที่.....เดือน..... พ.ศ..... จนถึง วันที่..... เดือน.....

พ.ศ.....ณ..... ไปตีพิมพ์หรือเผยแพร่ โดยวิธีอื่นใด เพื่อประโยชน์ในทางวิชาการ

หรือเพื่อประโยชน์ในการแพทย์เท่านั้น

ทั้งนี้ นางสาว จำปี ประสิทธิ์ชัย ซึ่งเป็นผู้วิจัยและ บุคลากรในสังกัด คณะแพทยศาสตร์

โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล จะไม่เปิดเผยชื่อนามสกุลและที่อยู่ของ

(ด.ช./ด.ญ.)..... ในรายงานทางวิชาการ หรือในการเผยแพร่โดยวิธีอื่นใด

ดังกล่าวข้างต้น

อนึ่ง ข้าพเจ้าได้รับการอธิบายจากแพทย์หรือ ผู้วิจัยเกี่ยวกับการเปิดเผยข้อมูลของ (ด.ช./ด.ญ.)

..... เพื่อประโยชน์ในทางวิชาการหรือเพื่อประโยชน์ทาง

การแพทย์โดยละเอียดแล้ว จึงได้ลงลายมือชื่อไว้เป็นสำคัญต่อหน้าพยาน

(ลงชื่อ).....(บิดา) (ลงชื่อ).....(มารดา)

(.....)

(ลงชื่อ).....(พยาน)

(.....)

*ผู้เยาว์ หมายถึง บุคคลที่มีอายุไม่ครบยี่สิบปีบริบูรณ์ ต้องให้บิดาและมารดาเป็นผู้ให้ความยินยอมแทน และถ้าผู้เยาว์มีอายุไม่ต่ำกว่าสิบห้าปีต้องได้รับความยินยอมจากผู้เยาว์ด้วย

APPENDIX I

DEMOGRAPHICS QUESTIONS (ENGLISH)

1. Participant's age (years) 18-24 25-30 31-35 36-40

41-45 46-50 51-55 more than 55

2. Occupation government employee

state employee business owner retail

industrial/company agriculture unemployment worker

other _____

3. Salary per month(\$) <166 167-333 334-500

501-666 666-833 more than 833

4. Weight _____ kg. and Height _____ cm.

5. The type of family: nuclear family expanded family

single mom/dad other _____

DEMOGRAPHICS QUESTIONS (THAI)

Demographics questions in Thai
แบบสอบถามข้อมูลส่วนบุคคล

1. อายุ (ปี) 18-24 25-30 31-35 36-40 41-45
 46-50 51-55 มากกว่า 55
2. อาชีพ รับราชการ รัฐวิสาหกิจ ธุรกิจส่วนตัว โรงงาน/บริษัท
 เกษตรกร ไม่ได้ทำงานประจำ อื่นๆ
3. รายได้ต่อเดือน (บาท) น้อยกว่า 5,000 5001-10,000 10,001-15,000
 15,001-20,000 20,001-25,000 มากกว่า 25,000
4. น้ำหนัก _____ กิโลกรัม ส่วนสูง _____ เซนติเมตร
5. ลักษณะครอบครัว ครอบครัวเดี่ยว ครอบครัวขยาย พ่อ/แม่เลี้ยงดูลูกเพียงลำพัง)

APPENDIX J

RESEARCHER'S OBSERVATIONAL GUIDE (ENGLISH)

Participants' behaviors such as how do they take care of their overweight child or children?

What kinds of foods do they give to their children?

How often do they provide food to their children during the interview?

What activities are children engaged in during the interview?

What foods are available in the house, and how accessible are they?

What is the interaction between participants and their children?

RESEARCHER'S OBSERVATIONAL GUIDE (THAI)

คู่มือในการสังเกต ผู้เข้าร่วมวิจัย

พฤติกรรมต่างๆของผู้เข้าร่วมวิจัย ในการเลี้ยงดูบุตร

อาหารชนิดใดที่ผู้เข้าร่วมวิจัยใช้เลี้ยงดูบุตร?

ผู้เข้าร่วมวิจัยให้อาหารบุตรในระหว่างการสัมภาษณ์บ่อยครั้งเพียงใด?

เด็กมีกิจกรรมอะไรบ้างที่เข้ามาเกี่ยวข้องในระหว่างการสัมภาษณ์?

มีอาหารอะไรบ้างที่อยู่ในบ้าน? และ มีอาหารอะไร?

บ้างที่บุตรสามารถ หยิบกินได้อิสระ

ผู้เข้าร่วมวิจัยและบุตรมีปฏิสัมพันธ์กันอย่างไรบ้าง

APPENDIX K

RESEARCHER'S INTERVIEW GUIDE (ENGLISH)

Do you like being a parent?

Do you have any difficulty in raising your children? If so what is that?

How do you take care of your children?

How do you evaluate your child's weight status?

What do you feel are the consequences of children being overweight?

What do you believe contributes to a child being overweight?

How do you feel you provide for your child's overall health?

How do you shape your child's diet and activities?"

.

RESEARCHER'S INTERVIEW GUIDE (THAI)

คู่มือในการสัมภาษณ์ผู้เข้าร่วมวิจัย

คุณชอบที่จะเป็นพ่อหรือแม่ไหมคะ?

คุณมีปัญหาในการเลี้ยงดูบุตรไหมคะ? ถ้ามี ปัญหานั้นคืออะไร?

คุณมีวิธีในการเลี้ยงลูกยังบ้าง?

คุณมีวิธีในการประเมินน้ำหนักบุตรของคุณอย่างไร?

คุณคิดว่า เด็กที่มีน้ำหนักเกินมาตรฐาน จะมีปัญหาอะไรตามมาบ้าง?

อะไรบ้างที่คุณเชื่อว่า มีผลทำให้เด็กมีน้ำหนักเกินมาตรฐาน?

คุณคิดว่ามีอะไรบ้าง ที่คุณดูแลสุขภาพลูกโดยทั่วไป?

คุณมีวิธีในการสร้างพฤติกรรมการกินและการทำกิจกรรมของเด็กอย่างไร?

APPENDIX L

JOURNAL WRITING FORM (ENGLISH)

DATE.....MONTH.....YEAR.....

TIME	DIEATARY AND ACTIVITIES

JOURNAL WRITING FORM (THAI)

คู่มือในการเขียนบันทึกของผู้เข้าร่วมวิจัย

วันที่.....เดือน.....พศ.....

เวลา	อาหารและกิจกรรม

APPENDIX M

RESEARCHER'S DOCUMENT REVIEW GUIDE (CHILD'S MEDICAL RECORDS) (ENGLISH)

Age (year, months)

Weight at birth (kg)

Weight status/nutritional status (growth chart) (percentile)

Dietary record

Development

Past illness

Family health history

Record of weight-control programs a child and parents participated including

Physician's advice.

Other data that are involved in child's nutritional status.

**RESEARCHER'S DOCUMENT REVIEW GUIDE (CHILD'S MEDICAL RECORDS)
(THAI)**

คู่มือทบทวนแฟ้มประวัติสุขภาพบุตร ของผู้เข้าร่วมวิจัย

อายุ (ปี,เดือน)

น้ำหนักแรกเกิด (กก)

น้ำหนักปัจจุบัน (กก), ภาวะโภชนาการ (กราฟการเจริญเติบโต, เปอร์เซ็นไทล์)

ประวัติการได้รับนม และ อาหาร

พัฒนาการ

ประวัติการเจ็บป่วยในอดีต

ประวัติสุขภาพในครอบครัว

ประวัติการเข้าร่วม โปรแกรมลดน้ำหนัก รวมถึงการได้รับคำแนะนำต่างๆจากทีมสุขภาพ

ข้อมูลอื่นๆที่เกี่ยวข้องกับ ภาวะโภชนาการของเด็ก

APPENDIX N

SCHEDULE OF DATA COLLECTION (RECEIPT / RECORD)

	Observation	Interview and Observation (1)	Interview and Observation (2)	Data Review	Journal Writing	Note
1. NONG FIRST HN xxxxxxx T xxxxxxxxxxx Age 7 m. Wt.9.3 kg. Ht. 72 cm.(P103.3, overweight)	May 19	May 23,	June 3	May 20	June 8	Grandmother and mother
2. NONG NADOL HN xxxxxxx T xxxxxxxxxxx Age1.7 yr. Wt.15.6 kg. Ht. 84 (P 130, mild)		May 27	June 3	May 27	June 3	Mother, grandmother and family
3. NONG NUMWAN HN xxxxxxx T xxxxxxxxxxx Age 1.7 yr. Wt.13.4 kg.Ht.76 cm. (P119.6, overweight)		June 24	June 28	June 24	June 28	Grandmother and grand father
4. NONG PREUNG HN xxxxxxx T xxxxxxxxxxx Age 1.7 yr. Wt. 17 kg. Ht. 86.2 cm. (p 145, moderate)	June 25	June 28	July 4	July 4	July 4	Single mom and neighbor take care during the day
5. NONG FURN HN xxxxxxx T xxxxxxxxxxx Age 2.3 yr. Wt. 16.1 kg, Ht. 85.5 cm (P 134, Mild)		July 17	August 2	August 5	August 2	Mother (housewife)
6. NONG TUNVA HN xxxxxxx T xxxxxxxxxxx Age 1.5 yr. Wt. 20.5 kg. Ht. 86.5 cm. (P 172.5, severe)		July 23	July 30	August 5	July 30	Mother, and grand mother with extended family
7. NONG NENE HN xxxxxxx T xxxxxxxxxxx Age 2.8 yr. Wt. 19.9 kg. Ht. 94.5 cm. (P142, moderate)		July 30	August 25	August 14	August 27	Mother and grand mother with other 6 family members
8. NONG Kongkwan HN xxxxxxx T xxxxxxxxxxx Age 10 m. Wt. 10.4 kg. Ht. 73 cm. (P115, overweight)		August 9	August 27	August 14	August 27	Mother and grand parents
9. NONG ACAT HN xxxxxxx T xxxxxxxxxxx Age 1.8 yr. Wt. 16.2 kg. Ht. 85.1 cm. (P158, moderate)		August 30	Sept 7	Sept 3	Sept 7	Mother and extended family
10. NONG ROHANA HN xxxxxxx T xxxxxxxxxxx Age 3 yr. Wt. 21.4, kg. Ht. 91.4 cm.		Sept 13	Sept 20	Sept 17	Sept 20	Parents and extended family
11. NONG NUMMON HN xxxxxxx T xxxxxxxxxxx Age 2 yr. Wt. 17.6 kg. Ht 86.4 cm (P130, moderate)		Sept 27	Sept 30	Oct 4	Nov 1	Mother and grandmother with extended family
12. NONG WIN HN xxxxxxx T xxxxxxxxxxx Age 10 m. WT. 12.72 kg. Ht. 74 cm. (P136, mild)		Oct 9	Oct 10	Oct 16	-	Mother (house wife) and extened family
13. NONG PAUSE HN xxxxxxx T xxxxxxxxxxx Age 2.2 yr. Wt. 19 kg. Ht. 92 cm. (P136, mild)		Oct 18	Oct 22	Oct 25	-	Mother and extended family with hire neighbor (during the day)

APPENDIX O

PARTICIPANTS' DEMOGRAPHIC CHARACTERISTICS

Child's Age	Birth Weight (grams)	Weight Status	Mother's weight	Mother's Career	Family Income (baht)	Mother's BMI	Caretaker's age	Pregnancy Weight Gain (kg)	Primary Caretaker	Number of Siblings
7 mo.	3100	Over	56	Retired	10001-15000	22.43	>55	20	GM	0
1.7 yrs.	4150	Mild	60	LPN	20001-25000	24.97	31-35	23	M	0
1.7 yrs.	3600	Over	47	Worker	>25000	20.08	46-50	15	GM	1
1.7 yrs.	3075	Mod	50	Government employee	>25000	21.64	36-40	16	M	1
2.3 yrs.	4100	Mild	48	House wife	20001-25000	21.05	31-35		M	0
1.5 yrs.	3300	Severe	102	Self business	15001-20000	39.84	25-30	38	M, GM	1
2.8 yrs.	3565	Mod	84	Government enterprise	15001-20000	34.52	25-30	14	M, GM	0
1.8 yrs.	4200	Over	64	Company	>25000	22.41	31-35	19	M, GM	0
3 yrs.	2700	Mod	43	Unemployed	<5000	17.44	18-24	10	M, F	0
2 yrs.	630	Mild	39	Unemployed	<5000	13.82	18-24		M, F	0
10 mo.	3400	Mild	66	Company	>25000	25.78	31-35	18	M, F	0
2.2 yrs.	3370	Mild	70	Own business	5001-10,000	23.97	18-24	12	M, F	0
1.7 yrs.	3500	Mild	80	Company	20001-25000	31.25	25-30	20	M, F	0

Note: "Over" is defined as overweight, "Mild" is mild obesity, "Mod" is moderate obesity, and "Severe" is severe obesity. "M" is defined as mother, "GM" as grandmother and "F" as family.

APPENDIX P

RESEARCH TIMELINE

	Proposal Defense	UMASS IRB Approval	Ramathibodi IRB Approval	Data Collection and Analysis	Report Writing	Advisor's Review	Paper Editing	Final Defense
12/13	X							
3/14		X						
5/14			X	X				
6/14				X				
7/14				X				
8/14				X				
9/14				X				
10/14				X				
11/14				X				
12/14					X			
1/15					X			
2/15					X			
3/15					X			
4/15						X		
5/15						X	X	
6/15							X	
7/15								X

APPENDIX Q

RECCOMENDED DIETARY INTAKE TABLES FOOD FOR INFANT, BIRTH-12 MONTHS

















Age (month)	Number of Meal/day	Types and Amount of Food					Guide to Food Management
		Rice Group	Meat Group	Vegetable Group	Fruit Group	Oil Group	
Birth - 6 Months	-	Exclusively breastmilk without other kinds of food even water					<ol style="list-style-type: none"> 1. Starting with one type of food in very small amount at a time, when the baby eat with no problem of allergy, than gradually increase to the recommended amount of food. 2. Arrange a variety of food in each group for the child to become familiar with them. 3. It is not necessary to grind the food for children 7 months old or more, but provide them with more rough food to practice chewing 4. Do not prepare strong flavor but natural taste of food. 5. Raw materials and utensil for food cooking and containing must be clean and safe
6 Months	1	3 tbs. of finely ground cooked rice	$\frac{1}{2}$ egg yoke or 2 tbs. of fish, or 1 tbs. of liver paste	$\frac{1}{2}$ tbs. of finely ground, soft cooked vegetables such as Ivy gourd, pumpkin	1-2 pieces of ground fruits such as ripe Banana, papaya	$\frac{1}{2}$ teaspoon	
7 Months	1	4 tbs. of ground cooked rice	$\frac{1}{2}$ boil egg alternated with 1 tbs. of liver paste, or fish, or pork, or chicken	1 tbs. of cooked vegetables such as star gooseberry, Ivy gourd, pumpkin	1-2 pieces/meal of ripe fruits such as 2 pieces of papaya or 2 pieces of ripe mango	$\frac{1}{2}$ teaspoon	
8-9 Months	2	4 tbs./meal of roughly ground, soft cooked rice	$\frac{1}{2}$ boil egg alternated with 1 tbs./meal of liver paste, or fish, or pork, or chicken	1 tbs./meal of cooked vegetables such as star gooseberry, Ivy gourd, Chinese cabbage pumpkin	2-3 pieces/meal of ripe fruits such as 3 pieces of papaya, 1 banana	$\frac{1}{2}$ teaspoon/meal	
10-12 Months	3	4 tbs./meal of roughly ground, soft cooked rice	$\frac{1}{2}$ boil egg alternated with 1 tbs./meal of liver paste, or fish, or pork, or chicken	1 $\frac{1}{2}$ tbs./meal of cooked vegetables such as star gooseberry, Ivy gourd, Chinese cabbage pumpkin, carrot	3-4 pieces/meal of ripe fruits such as 4 pieces of ripe mango, 1 orange	$\frac{1}{2}$ teaspoon/meal	

Nutrition Division, Department of Health, Ministry of Public Health

ADEQUATE AMOUNT OF DAILY FOOD INTAKE FOR A CHILD 1-5 YEARS

Adequate Amount of Daily Food Intake For a Child 1–5 Years

Food Groups	Amount		Remarks
	1–3 yrs.	4–5 yrs.	
Rice–Starch	 3 scoops	 5 scoops	Cooked rice (boiled or steamed), cooked glutinous rice, noodles, bread, Taro, potato, alternately served.
Vegetables	 2 scoops	 3 scoops	Dark green, yellow-orange vegetables, and other vegetables taken alternately.
Fruits	 3 portions	 3 portions	Seasoning fruits, thoroughly washed (1 portion for each kind of fruit may vary which equals to, for example, 1 banana, 2 medium oranges, 4 rambutans, half a guava, half a mango, 6 bites of papaya, 6 bites of pineapple).
Meat	 3 tablespoons	 3 tablespoons	Cooked and cut in small pieces for easy chewing and taken alternately with fish, egg, seafood, whole little fishes and shrimps, tofu, liver and curdled blood of pig, chicken, duck.
Milk	 2 glasses	 3 glasses	Fresh milk, powered milk, or yogurt 1 glass of milk = Yogurt (150 g.) or 1 1/2 cup
Oil Coconut milk	 Less than 3 teaspoons	 Less than 4 teaspoons	Avoid excessive intake as it may cause obesity.
Sugar	 Less than 3 teaspoons	 Less than 3 teaspoons	Avoid excessive intake as the baby may be thin or obese, and with tooth decay. Avoid giving the baby sugary desserts and drinks such as candy, jelly, sweet drink, soft drink.

Avoid crunchy/crispy snacks but replaced with nutritious snacks such as milk, fruits, low sugar Thai desserts, and taken around 1 – 2 hours before meals

Caring for Your Child

Caring for your child at different ages as follows.

Birth – 1 Month



- ♥ If the cord stump has not yet fallen off, keep the cord clean and dry with alcohol pad every after bath, do not apply any talcum or powder onto it.
- ♥ Breastfed baby may have loose stools, if the child defecates frequently, and has poor suckling, consult the doctor right away.
- ♥ If display yellowish skin, bring the child to the doctor or health personnel.

Month – 6 Years

- ♥ Weight the child every 3 months, measure the height every 1 year, and compare results with those in the child growth chart.
- ♥ Bring the child for physical check-up and vaccination on appointments at the ages of 1, 4, 6, 9 –12 months, 1 1/2, 2 1/2 years, after that every year until the age of 6.



Notes

- ♥ Bring the child to the doctor or health personnel if displayed drowsiness, high fever, convulsion, flatulent, vomiting, fast breathing, apnea, obstructed breathing.
- ♥ If the child exhibits high fever, high body temperature, sponge the child's body with tepid water before seeing the doctor or health personnel.
- ♥ Be careful of any accidents possibly happen to your child such as burns from heat and flame, electric shock, drowning, swallowing toxic substance, road accident, etc.
- ♥ Do not apply mandle paint to you child as it might allow germs to pass into the throat.
- ♥ A 6-year-old or 72-month-old child should be able to swim (aquatic survival skill).



APPENDIX R

CITI TRAINING REPORT

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM) COURSEWORK REQUIREMENTS REPORT*

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** Jumpee Prasitchai (ID: 1927870)
- **Email:** jprasitc@nursing.umass.edu
- **Institution Affiliation:** University of Massachusetts Amherst (ID: 500)
- **Institution Unit:** school of nursing
- **Phone:** 4133451288

- **Curriculum Group:** Human Research
- **Course Learner Group:** Group 2 Social and Behavioral Research Investigators and Key Personnel
- **Stage:** Stage 1 - Basic Course

- **Report ID:** 5017822
- **Completion Date:** 09/29/2010
- **Expiration Date:** 09/29/2015
- **Minimum Passing:** 80
- **Reported Score*:** 100

REQUIRED AND ELECTIVE MODULES ONLY	DATE COMPLETED
Introduction (ID:757)	09/27/10
History and Ethical Principles - SBE (ID:490)	09/29/10
Defining Research with Human Subjects - SBE (ID:491)	09/29/10
The Federal Regulations - SBE (ID:502)	09/29/10
Assessing Risk - SBE (ID:503)	09/27/10
Informed Consent - SBE (ID:504)	09/29/10
Privacy and Confidentiality - SBE (ID:505)	09/27/10
Conflicts of Interest in Research Involving Human Subjects (ID:488)	09/29/10
University of Massachusetts Amherst (ID:783)	09/29/10

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

CITI Program
Email: citisupport@miami.edu
Phone: 305-243-7970
Web: <https://www.citiprogram.org>

**COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)
COURSEWORK REQUIREMENTS REPORT***

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** Jumpee Prasitchai (ID: 1927870)
- **Email:** jprasitc@nursing.umass.edu
- **Institution Affiliation:** University of Massachusetts Amherst (ID: 500)
- **Institution Unit:** school of nursing
- **Phone:** 4133451288

- **Curriculum Group:** Social and Behavioral Responsible Conduct of Research
- **Course Learner Group:** Same as Curriculum Group
- **Stage:** Stage 1 - RCR
- **Description:** This course is for investigators, staff and students with an interest or focus in **Social and Behavioral** research. This course contains text, embedded case studies AND quizzes.

- **Report ID:** 5017823
- **Completion Date:** 10/23/2010
- **Expiration Date:** N/A
- **Minimum Passing:** 80
- **Reported Score*:** 98

REQUIRED AND ELECTIVE MODULES ONLY	DATE COMPLETED
Introduction to the Responsible Conduct of Research Archived 1248 (ID:1248)	09/29/10
Research Misconduct (RCR-SBE) (ID:1495)	10/05/10
Data Management (RCR-SBE) (ID:1523)	10/05/10
Authorship (RCR-SBE) (ID:1518)	10/12/10
Peer Review (RCR-SBE) (ID:1521)	10/12/10
Mentoring (RCR-Interdisciplinary) (ID:1250)	10/12/10
Using Animal Subjects in Research (RCR-Basic) (ID:13301)	10/13/10
Conflicts of Interest (RCR-SBE) (ID:1462)	10/23/10
Collaborative Research (RCR-SBE) (ID:1484)	10/23/10
Research Involving Human Subjects (RCR-Basic) (ID:13566)	10/23/10
Responsible Conduct of Research (RCR) Course Conclusion (ID:1043)	10/23/10

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

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APPENDIX S

CURRICULUM VITAE

JUMPEE PRASITCHAI

College of Nursing, 651 North Pleasant St.
University of Massachusetts Amherst, MA 01003
(413) 6874854
jprasitc@nursing.umass.edu

EDUCATION

- 2011-2015 **PH.D.** Nursing, University of Massachusetts Amherst (UMass Amherst). US.
Dissertation: Social Processes that Influence a Child being Overweight in Thailand.
Advisor: Dr. Emma E Dundon, MS RN CPNP PhD.
- 2002- 2005 **M.S.** Science degree in Health Education, Srinakarinwirot University, Bangkok, Thailand.
Thesis: Factors Related to Overweight Health Care Professionals at
Ramathibodi Hospital, Thailand
Advisor: Dr. Chutamat Tepchisri. MS PhD
- 1991-1994 **B.S.** Nursing Science, Ramathibodi School of Nursing, Mahidol
University, Bangkok, Thailand.

RESEARCH INTERESTS

- Health promotion in young children.
- Overweight children.

GRANTS

- Principal Investigator.** Social Processes that Influence a Child being Overweight in Thailand.
- *Dissertation Research Grant.* UMass Amherst Graduate School: \$1000.00
- *Research Grant.* Pediatric Nurses Association of Thailand: \$300.00

RESEARCH EXPERIENCES

- 2008 -Project : Primary School Health Guidelines, Thailand
2007 -Project : Breast Feeding, Thailand
2005 -Master thesis: Factors Related to Overweight Health Care Professionals at
Ramathibodi Hospital, Thailand
-Project: Constructing Mothers' Knowledge and Confidence to Take
Care of Their First Child at Yunhee Hospital, Thailand.

WORK EXPERIENCES

Teaching Assistant at University of Massachusetts, US.

- 2015 -Worked as a TA in family assessment and intervention.
2014-2014 -Worked as a TA in a leadership role.
-Worked as a conversation partner in the Thai Language.
2013-2013 -Worked as a TA in lab of health assessment.
-Worked as a TA in human growth and development.
2012-2012 -Worked as a TA in lab of health assessment.
-Worked as a TA in cultural diversity.
-Worked as a TA in a leadership role.

Nursing Instructor and Leadership at Ramathibodi Hospital, Mahidol University, Thailand.

- 2005-2011 -Worked as an In Patient Department Supervisor.

- Taught immunizations and common problems in children.
- Coached nursing students to give pediatric patients' immunization and health education.
- Trained senior nurses in new physical examination procedures and treatments for pediatric patients.
- Trained nurse practitioners in proper physical examination and treatment for pediatric patients.
- Instructed sophomore and junior nursing students to discuss patients' health problems, using problems based learning (PBL) strategy.

Registered Nurse at Ramathibodi Hospital, Mahidol University, Thailand.

- 1998-2005 -Worked as a Primary Care Nurse, In Charge Nurse and designed nursing care plan for guiding friends and colleagues in the work place at Pediatric Intensive Care Unit (PICU).
-Supervised and constructed nursing care plans for younger colleagues and new nurses at PICU.
- 1994-2005 -Provided care for pediatric patients and worked with health care providers in multi-disciplinary fields at PICU.
- 1998-2011 -Provided care for new born patients at Nursery and NICU as a part job at Yunhee Hospital, Thailand.

SKILL TRAINING

- 2007 -Nurse Practitioner Program
- 2005-2006 -Theoretical Foundation in Advanced Nursing Practice
-Advanced Pediatric Nursing I
-Advance Pediatric Nursing II
-Teaching in Clinical Settings

COMMUNITY ACTIVITIES AND VOLUNTEER

- 2005-2011 - Taught associate nursing students in Mea Pha Loungat Program, Bangkok
- Collaborated with the Faculty of Public Health to teach primary health care, to give health consultations, and provided physical examinations for young children in a primary school (close to the Ramathibodi Hospital).

SPECIAL QUALIFICATION AND SKILLS

- Have had good communications in both spoken and written English.
- Have experienced in computer skills used microsoft word, powerpoint presentation, endnote program, SPSS softwares.

PROFESSIONAL ORGANIZATIONS

- 1994-present -The Nursing Council of Thailand
- 2005-present -The Pediatric Nursing Association of Thailand

PUBLICATION

Thesis/Dissertation

- Prasitchai, J (2005). *Factors Related to Overweight Health Care Professionals at Ramathibodi Hospital, Thailand*. Srinakharinwirot University.
- Prasitchai, J (2015). *Social Processes that Influence a Child being Overweight in Thailand*. University of Massachusetts Amherst, MA.

Book

- Prasitchai, J (2009). *Pediatric Care: Immunization*. Ramathibodi, Mahidol.

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