

# A grounded theory study of social processes that influence a child being overweight in Bangkok

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**Abstract:** The purpose of this study was to develop a preliminary model to understand the social processes that influence a young child being overweight. Glaser's grounded theory method was used to collect and analyze data. Interviews, observations, document reviews, and journal entries were used to collected data from July-November, 2015. There were 13 families (10 mothers, 2 spouses, 6 grandmothers) involved, all living in Bangkok, with overweight children from six months to three years of age.

The finding of our preliminary model, Sustain Weight Gain in Young Children, explains six categories, related to one another as a process that contributed to a child becoming overweight. *Child feeding practices* was the core category. The other categories were *encouraged feeding, positive family perception, weight gain, observational/interventional triggers, and controlled feeding*. Child-feeding practices involved: participants' feeding behaviors; a child's characteristics and inside/outside influences encouraging feeding; positive family perceptions as participants' attitude towards a child's growth and feeding; weight gain as children's weight status; strategies used for controlling a child's weight; and observation/interventional triggers as feelings, comments, and greetings toward a child's weight. Encouraged feeding and family positive perception, were related and initiated child feeding practices. Several controlled feeding strategies were tried, but these were not intense or consistent enough to effect a change. Weight screening and family education programs for young children are needed to focus on proper feeding rather than emphasizing weight loss. The Sustain Weight Gain in Young Children model enables nurses to understand this process and to care for young children more effectively.

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## Introduction

The prevalence of overweight children is increasing around the world.<sup>1</sup> The consequences of being overweight include 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

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adult-onset obesity.<sup>2,3</sup> 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.<sup>2,4</sup>

Researchers around the world have conducted studies to identify the causes of being overweight. The authors of these studies point out that many 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).<sup>5,6</sup> Some researchers have found that genetics and environment also influence the prevalence of weight problems in children.<sup>7</sup> Many countries have initiated research and programs aimed at controlling the number of overweight children in their populations, however, effective childhood weight management programs have been elusive.<sup>8</sup>

In Thailand the prevalence of children who are overweight has been rising for decades, 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.<sup>9</sup> Several investigators have based studies on the premise that high SES status, residence in metropolitan areas, 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.<sup>10</sup> Various weight management programs continue to be launched for overweight children in many areas, in particular in the large cities.<sup>11-15</sup> These weight management programs mainly focus on school age children, and involved multiple stakeholders. The programs emphasize enhanced knowledge, promoting healthy diets, and encouraging exercise. Even though overweight children in these studies have shown better knowledge and healthier

habits, the outcome did not show a significant decrease in children's weight gain. 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 young child being overweight plays a key role in the effectiveness of future weight management programs in early childhood.

## **Study Aim**

To explore social processes that influences a child being overweight in Thailand and develops a preliminary model to explain this.

## **Methods**

**Study design:** Strategies and data analysis for GT in this inquiry aligned with the original work of Glaser and Strauss<sup>16</sup> and the subsequent work of Glaser.<sup>17,18</sup> This method is useful for discovering realities holistically, to capture the meanings implicit in human activity.<sup>19</sup> Glaser<sup>18</sup> 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. 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.<sup>20</sup>

**Sample and setting:** The settings for this inquiry were a pediatric outpatient department (POPD) of a major hospital and participants' homes, all located in Bangkok, Thailand. Purposive selection involved both criterion-based and theoretical sampling. Criterion-based sampling involved seeking caretakers who were more than 18 years of age, and at the time of the study played a primary role in caring for a child age six months to three years. The children had no chronic

illnesses or diseases that affected their weight status. Childhood overweight was defined in this study as greater than the 97<sup>th</sup> percentile adjusted for gender and age. Mild obesity was defined as 120–140<sup>th</sup>, moderate obesity was 140–160, and severe obesity was greater than the 160 percentile by weight for height in the Thai children growth chart.<sup>21</sup>

**Ethical considerations:** The research proposal was approved by the University of Massachusetts IRB (U.S) and the Ramathibodi Hospital Institutional Review Board (Thailand). All potential participants were informed about the nature of the study, and were free to decide whether to participate in the study. They were also informed that they could stop the interview process at any time, if they wished to do so. An signed informed consent form was used to confirm their agreement. The participants' anonymity was maintained throughout the study.

**Data collection:** There were four methods of data collection: observation, interview, journal writing, and document review. Each participant was interviewed twice. Observation was undertaken while interviewing the participants and focused on their behaviors such as how they took care of their overweight child, the kinds of foods they fed them, and how often they provided these. They were asked to participate in three days of journal writing on (a) types of food that they gave to their child during the day, including

amount and frequency; (b) their child's activities during the day; and (c) anything else they wanted to write about themselves and/or their overweight child. The child's medical records were reviewed which focused on demographics, weight status (growth chart), dietary record, growth and development, history of illness (including record of weight-control programs that overweight children were involved in), and the physician's advice.

**Data analysis:** This comprised two coding steps (substantive and theoretical coding) following Glaser's GT approach.<sup>17,18</sup> Substantive coding was also divided into two steps: open and selective coding. In the first step of open coding the transcript, field notes from observations, journal writing and notes from reviewed documents from the first participant (caretaker) were coded line by line. The data was sorted/grouped, and initial concepts were identified. 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. 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 (as in the example in Table 1).

**Table 1** An example of data analysis

Description	Code	Category	6 Cs
He likes eating food; in particular, when he see a bottle of milk, he starts shaking	Child temperament characteristic	Encourage feeding	Cause

The constant comparative method was used again between the concepts of the new set of data and the previous concepts to allow more categories and their properties to emerge or to add more data to the previous categories, if the new concepts fitted in.

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.

Theoretical sampling was used to ensure saturation of the properties of each category with 11 caretakers/family members participating in the study. Interviews, observations, journal writing, and document reviews were continued in order to fill unsaturated categories. The data arrangement, including the name of each category and its properties, was revised until these fitted and saturated the data requirements.

The second step, selective coding, was used when a prospective theory emerged. The core category was created by a selective coding step, which was systematically related to other categories. The constant comparative method was applied again to delimit categories. The categories that were not relevant to the core category were excluded.

The third step, theoretical coding, was used to conceptualize the substantive code by memo sorting. The hypothesis as a theory emerged through integrating a relationship among categories. The hypothesis also represented a basic social process that influences a child being overweight. The emergent substantive codes were then used to weave the fractured story back together again. The concept of the outcome as a theory and a related diagram were revised during the process of reviewing. After theoretical saturation had been reached, the researcher returned to the setting and collected two more sets of data from two families to verify the hypothesis. The final outcomes, developed as a model, were discussed again with two of the caretakers and family members.

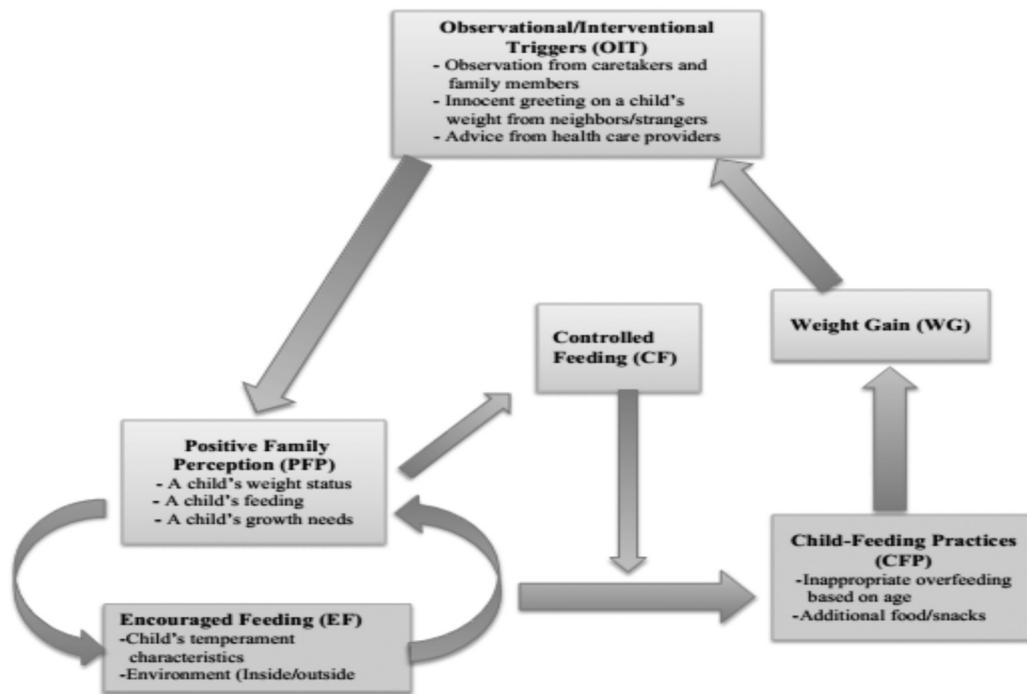
**Rigor and trustworthiness:** The strategies used to ensure rigor and trustworthiness of this study relied upon by Lincoln & Guba<sup>22</sup>, and Glaser<sup>18</sup> including credibility, transferability, dependability, and confirmability. The methodology of GT was described in detail including research design, samples, setting, access and analytic process that was sufficient enough to enable a future researcher to repeat the work.

The limitations and implementation were also provided, and the audit trail was reported as a description of the whole project. The data collection and analysis was continued until reaching theoretical saturation. Triangulation was applied in various steps of study (four different techniques to collect data). A Thai professor also played a crucial role contributing to the triangulation of data after categories and their relationships had emerged. When theoretical saturation was achieved, the researcher returned to the setting and collected two additional sets of data (two additional participants) for verification purposes. The outcome of this study is presented as an explanatory model. Rich descriptive narrative and quotes are provided allowing readers to better understand participants' worldviews and their context.

## Findings

Participants included 13 families with members of 12 mothers, 2 fathers, and 6 grandmothers. There were 13 children, 8 boys and 5 girls involved study ranging in age from 7 months to 3 years. Three children were overweight, six had mild obesity, three had moderate obesity, and one was severe obesity. Most children 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 incomes ranged from <5,000 baht (~US\$166) to >25,000 baht (~US\$833) per month. The families all used Thai as their primary language.

Six categories emerged and were related to one another in the Sustain Weight Gain in Young Children model, and were a process contributing to a child becoming overweight, (Figure 1). *Child-feeding practices* was the core category. The other categories were *encouraged feeding, positive family perception, weight gain, observational/ interventional triggers, and controlled feeding*.



**Figure 1.** Preliminary Model of Sustaining Weight Gain in Young Children (SWGYC).

**Child-feeding practices (CFP):** Caretakers and family members expressed trying to nourish their child from infancy, in order to make sure that their child had enough food to eat, and that they stayed healthy. They fed their child every time the child signaled verbally or non-verbally for food. They also fed the child if they felt the child was hungry, or had not eaten enough. The manner in which they fed the child had a significant result in inappropriate or over-feeding practices. The findings illustrated that caretakers and family members overfed the children regarding the recommendations from Thai Ministry of Public Health guidelines.<sup>22</sup>

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

*M: No...I didn't, because I didn't know about it until my child was about a year old and we visited the hospital. A doctor informed me my child was overweight and needed to lose weight. (P6)*

Caretakers and family members consistently shared additional food and snacks with their child outside the regular feeding schedule, in particular when a child begged for or demanded these items. Some extended family members were more likely to share food, especially those from larger families.

**Encouraged feeding (EF):** Several factors that encouraged caretakers and family members to feed their child more often than they should were the child's temperament and inside or outside influences in the environment. The child's temperament was explained as eating behaviors that encouraged caretakers and family members to feed the child more. Participants stated that their children, who loved to eat, used various strategies or signals to get food from them. For example, children opened their mouths, pointed their fingers, or brought an empty bottle to them. Many of the caretakers mentioned that a temper tantrum was also a strong signal to acquire food. The following was an example of the child tried to beg food from family members:

*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: 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. (P9)*

Inside and outside influences also played an important role in influencing caretakers and family members to feed their child more often. Inside influences such as night feeding, refrigerator access and sharing of food by family members, contributed to more frequent feeding. Outside influences included available merchant food and a neighbor or stranger feeding the child. The following interview with a grandmother of a two-year-old girl was an example of these influences.

*GM: She surely waves her hand when the ice cream merchant comes.*

*R: Do you end up buying her ice cream?*

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

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

*GM: I normally don't buy it for her, but others (family or neighbors) will buy some, and they will share with her. (P3)*

These influences played a key role in encouraging caretakers and family members to inevitably feed their child more often than they should.

**Positive family perception (PFP):** Caretakers and family members shared their perceptions about feeding and their child's growth needs in a positive way. For example, they believed formula increases height, that brain growth needs more nutrition, that the child would get skinnier with age, and the child would not be overweight when they were older. All

caretakers perceived that their child was gaining weight, and they mostly understood the negative consequences of this, but they still thought it was not the right time to seriously limit a child's food consumption. The following was an example of a mother of a girl, who was two years and three months of age, with mild obesity. She hesitated 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*

*M: 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. (P5)*

All positive perceptions play a crucial role in whether caretakers and family members would seriously limit their feeding practices.

**Weight gain (WG):** Caretakers and family members noticed that their child was gaining more weight, but they did not actually know the child's weight status. According to the children's medical records, their weight status was divided into four categories: overweight, mild, moderate, and severe obesity.

*GM: I know children have to grow but she is gaining more weight quickly. I just bought her new clothes lately but right now they seem too tight on her. (P3)*

Most participants felt their child was growing up faster than other children the same age group.

***Observational/interventional triggers (OIT):***

Even though they did not know their child's exact weight status, many triggers (suggestions) let caretakers and family members know their child had become overweight. There were observations from caretakers and family members, innocent greetings from neighbors and strangers, and suggestions from health care providers. The following example is about a 17 months old boy, who had received 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' (P9).*

Observations from caretakers/family members, innocent greetings from neighbors or strangers, and suggestions from health care providers were the triggers for caretakers and family members to think about their child's weight status.

***Controlled feeding (CF):*** Even though caretakers and family members perceived that their child was not too overweight, they also stated that they had applied various strategies of controlled feeding, according to a physician's suggestions. For this girl, one year, seven months, her grandmother tried to limit formula feeding:

*R: Why are you giving her different amounts?*

*GM: It depends, sometimes I give her 2 ounces, sometimes 4 ounces. 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: What happens if she wakes up and cries for formula?*

*GM: I give her a little.*

*R: Have you ever tried not to feed her?*

*M: Never, she would cry a lot. I have never won this battle. (P4)*

The other strategies that caretakers and family members used to help limit their child's eating were to hide food while they themselves were eating, or pretending they were eating food that was too spicy for the child. Some caretakers expressed that they also tried to convince other family members to limit their child's feeding. Most of them stated that these strategies did not work for long, or very effectively, mainly because they could not resist or stop their child begging for food, and their family members were not cooperating.

***The relationship among categories as a social process:*** There were six categories that emerged and interacted with one another as the preliminary model in Figure 1 illustrates:

1. The beginning stage started with *child feeding practice* (CFP) that came from the interaction between *encouraged feeding* (EF) and *positive family perception* (PFP). The findings had shown that in the beginning stage, the levels of EF and PFP were typically high; consequently they lead to higher levels of CFP. The higher levels of CFP resulted in children with higher weight gain. When children began gaining more weight, the level of OIT also increased. The *observational/interventional trigger* (OIT) affected FPP, and then the *control feeding* (CF) began adjusting the CFP.

Child feeding practice demonstrated that caretakers and family members overfed their children consistently, by sharing additional food and snacks outside the regular feeding schedule. The level of CFP fluctuated with the FPP and played a crucial role in readjusting the level of CFP.

Encouraged feeding occurred according to the child's temperament characteristics and the inside/outside influences in their environment. The findings revealed that the level of children's temperament characteristics were always high, and had not decreased. However, the environment levels were different from family to family, and changed if caretakers and family members had adjusted their perception.

The positive family perception was the caretaker and family members' attitude towards their child's growth, and feeding habits. The findings showed that the level of PFP fluctuated. It would decrease if the level of *weight gain* (WG) and OIT were significantly higher. In addition, WG and OIT were positively related to each other. Moreover as the level of PFP decreased, consequently caretakers and family members were illustrating more CF. The CF had an affect on the CFP pattern. The majority of caretakers and family members applied was neither strong nor consistent enough to significantly change CFP pattern.

## Discussion

The outcomes of various studies highlight 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.<sup>23,24</sup> The children in this study showed the same result. They were overfed on a daily basis, including added snacks/treats. The preliminary model illustrates that the level of CFP comes from interaction between the level of PFP and EF. These two factors are adjustable and the PFP plays a crucial role in influencing whether or not a child becomes overweight.

The results from many research studies demonstrated the same outcome that parental perceptions are directly related to children's BMIs. For example, parents who were more likely to underestimate their child's weight, were contributing to their child's overweight status, especially when parents were themselves overweight.<sup>25-27</sup> These findings are also in line with the other study<sup>27</sup>, which revealed that parents of children 6–8 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 a child's weight status contributes to the prevalence of overweight children, only a handful of research studies have explored the reasons why. The findings from this research may explain these reasons. Not only do the findings reveal that caretakers' or family members' ability to identify when their children are overweight (according to standard criteria) was limited, but also that other positive perceptions were behind caretakers' underestimation of the weight gain, and preventing them from practicing proper feeding.

The level of PFP in this research study was high. This may be because Thai people perceive "a chubby baby is healthy and strong". The positive perceptions were the barrier for caretakers and family members to practice controlled feeding. As long as they had strong positive perceptions about a child's growth and feeding, it was difficult for health care providers to change their perceptions. Even though they did not state their positive perceptions in front of health care providers, these were presented in their expressions during in-depth interviews with the researcher. Future research is needed to explore family's positive perceptions for caring for their young children, and to develop a proper weight management program. Even though parents and family members had a high level of PFP, they wanted their child to eat healthier amounts and types of food. If health care providers educate caretakers and family members by

focusing on how to properly feed their children, rather than focusing on decreasing their weight, they would be more likely change their perceptions. We argue that their adjusted perception was presented in their willingness to be more cooperative, and make a follow-up appointment for assessment and treatment.

However, the preliminary model illustrates the OIT affects directly the PFP. These triggers came from caretakers/family members, strangers, neighbours and health care providers. The study demonstrates trigger levels from caretakers/family and strangers were low as presented by positive triggers such as a “chubby baby is cute”. The trigger level from health care providers differs from practice to practice. Health care providers from tertiary hospitals are more likely to talk more about a child’s weight status and weight control rather than health care providers from primary care. It may be because of the policy from the Thai Ministry of Public Health.<sup>28</sup> This policy enables healthcare providers at primary care undertake developmental screening in young children but allows schools to do weight screening and weight controlling. It is possible this policy prevents healthcare providers from paying closer attention to younger children’s weight status, because schools are handling this matter, at least until they are little older. If the policy is changed to let health care providers pay closer attention to children’s weight status when they are younger, it could help decrease the number of overweight children.

Inside and outside environmental influences was involved in *encourage feeding* (EF) that influenced a child becoming overweight. Other research studies<sup>29, 30</sup> also mention 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. The family environment in this research included permissive caretakers or extended family members who indulged the children by overfeeding, and this had a direct impact on a child’s overweight status. Li et al.<sup>31</sup> supported this finding; 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 grandparents. Furthermore, outside environmental influences, such as neighborhood safety and hotter weather had a significant association with children’s BMI and increased indoor sedentary behaviors.<sup>32,33</sup> Findings in this research demonstrated that outside environments were associated with children’s BMI, but for very different reasons. The availability of food from mobile food merchants and sharing of food by neighbors/strangers encouraged overfeeding of the children, and contributed to their becoming overweight. Even though we cannot control the outside influences, the inside influence can be changed if caretakers and family members’ adjust their perceptions.

Another factor promoting encouraged feeding was the child’s characteristics. The children in this research study were seven months to three years of age, the stage from late infancy to toddlerhood, and a transitional period from milk to solid food. At this time they are beginning to exert their independence in food choices.<sup>34</sup> They commonly have some behavioral characteristics such as enjoying eating, being able to eat larger portions, and searching for food on their own, which prevents caretakers from implementing a proper diet. Even though several researchers have insisted that young children are capable of regulating energy intake<sup>35,36</sup>, it is possible that the overweight children in this research study were genetically predisposed to have lower levels of self-regulation and were highly responsive or susceptible to obesogenic environmental factors.<sup>37</sup> In other words, children’s temperament may contribute to excess consumption among those with indulgent caretakers.<sup>38</sup> These findings were similar to those in a study<sup>39</sup> which illustrated 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. In addition the findings illustrate that it is difficult to adjust this factor and they seem to play a crucial role in impeding weight control practices. However, the children commonly stay at home and receive food from caretakers or

family members. If caretakers and family members perceive that their child needs to eat healthier, it is easier for them as caretaker and family members, to control their child's feeding.

## Limitations

One of the limitations with the use of GT as a methodology is that the findings may represent only one group or one area. The outcomes of this research study, which was developed as a preliminary model, can answer the question of why children who have participated in this study have become overweight. In other words, further testing and refinement of model is required with other populations.

## Conclusions and Implications for Nursing Practice

In this study social processes that are influential in young children becoming overweight were explored. The preliminary model, Sustaining Weight Gain in Young Children has emerged to explain this phenomenon, and to enhance knowledge about overweight children and obesity. 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. Understanding the social processes involved in Thai children becoming overweight is important for nurses and other health professionals caring for these children and their communities.

A checklist of caretaker and family members' positive perceptions such as *formula increases height*, *brain growth needs more nutrition*, and that *a child will get skinnier with age*, need to be developed to assist nurses in giving accurate advice and/or suggestions. With this checklist, nurses could better discuss with the caretakers/family member just those items that are a barrier to their child's weight control.

The outcome of the study demonstrates that inadequate feeding and overfeeding play a pivotal role 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. 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 will 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 decisions on the rearing of a child. The key person who is caretaker should be identified and discussions about programs or interventions should include them, and all other relevant family members.

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## การศึกษากระบวนการทางสังคมที่มีผลให้เด็กเล็กในกรุงเทพมีน้ำหนักเกิน มาตรฐานโดยใช้การวิจัยเชิงทฤษฎีพื้นฐาน

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บทคัดย่อ: การศึกษาในครั้งนี้วัดคุณภาพสังคมที่มีผลให้เด็กเล็ก มีน้ำหนักเกินมาตรฐาน โดยใช้การวิจัยเชิงทฤษฎีพื้นฐานของเกลเซอร์ ในการเก็บและวิเคราะห์ข้อมูล รวมทั้ง การสัมภาษณ์เชิงลึก การสังเกต ทบทวนประวัติสุขภาพ และบันทึกรายการอาหาร ดังแต่เดือน กรกฎาคม ถึง พฤษภาคม 2558 โดยมีผู้เข้าร่วมโครงการ 13 ครอบครัว (ประกอบไปด้วยมารดา 10 ราย คุณสมรรถ 2 คู่ และชาย จำนวน 6 ราย) แต่ละครอบครัวมีเด็กน้ำหนักเกินมาตรฐานในความตุลาอายุ 6 เดือน ถึง 3 ปี โดยทั้งหมดอาศัยอยู่ในเขตกรุงเทพฯ

ผลการศึกษาโดยรูปแบบจำลองของกระบวนการทางสังคมพบว่า มี 6 ตัวที่มีความสัมพันธ์เชื่อมโยง ซึ่งกันและกัน ล่งผลให้เด็กเล็กมีน้ำหนักเกินมาตรฐาน ด้วยการให้อาหารเด็ก ซึ่งเป็นตัวแปรหลัก ตัวแปรอื่นๆ คือ การส่งเสริม การให้อาหาร การรับรู้เชิงบวกของครอบครัว การเพิ่มขึ้นของน้ำหนัก การสังเกต/การกระตุ้นเดือน และการควบคุมอาหาร การให้อาหารเด็ก หมายถึง พฤติกรรมของผู้เลี้ยงดูและครอบครัวในการให้อาหารแก่เด็ก การส่งเสริมการให้อาหาร ได้แก่ บุคลิกภาพของเด็ก สิ่งแวดล้อมภายในและภายนอกบ้าน การรับรู้เชิงบวกของครอบครัวหมายถึง การรับรู้เชิงบวกของผู้ดูแลและ ครอบครัวที่มีต่อเด็กในด้านการให้อาหาร และการเจริญเติบโต การเพิ่มขึ้นของน้ำหนัก หมายถึง การเพิ่มขึ้นของน้ำหนักเด็ก ณ.เวลาใด เวลาหนึ่ง การควบคุมอาหารหมายถึง วิธีการต่างๆ ที่ผู้ดูแลและครอบครัวใช้ในการควบคุมน้ำหนักเด็ก การสังเกต/การกระตุ้นเดือน หมายถึงความรู้สึกของผู้เลี้ยงดูและครอบครัว คำทักทายจากบุคคลต่างๆ รวมถึง คำแนะนำจากบุคลากรทางการแพทย์ที่เกี่ยวข้อง กับน้ำหนักเด็ก กระบวนการเริ่มจากการส่งเสริมการให้อาหารและความคิดเชิงบวก ของครอบครัวมีความสัมพันธ์ซึ่งกันและกันส่งผลต่อการ ให้อาหารเด็ก ถึงแม้ว่าผู้ดูแลเด็กและครอบครัวจะพยายามควบคุมการให้อาหารแต่วิธีการต่างๆ เหล่านั้น ไม่เข้มงวดและต่อเนื่องพอยที่จะ ควบคุมน้ำหนักเด็กได้

การคัดกรองน้ำหนักเด็กเล็กและการให้อาหารให้เหมาะสมกับอายุเด็กมี ความจำเป็นและมีความสำคัญมากกว่าการมุ่งเป้าไปที่การลดน้ำหนัก รูปแบบจำลองของกระบวนการทางสังคม ช่วยให้พยาบาลมีความเข้าใจในกระบวนการที่ทำให้เด็ก เล็กมีน้ำหนักเกินมาตรฐานได้ดีขึ้นและสามารถดูแลเด็กเหล่านั้นได้ประสิทธิภาพมากขึ้น

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**คำสำคัญ :** การให้อาหารเด็ก กรุงเทพฯ การวิจัยเชิงทฤษฎีพื้นฐาน ผู้ดูแลเด็ก น้ำหนักเกินมาตรฐาน เด็กน้ำหนักเกิน มาตรฐาน กระบวนการทางสังคม การเพิ่มขึ้นของน้ำหนัก

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