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Darunee Ditsungnoen

Mahidol University, Nakhon Pathom, Thailand, dadsn08@gmail.com

Praphaphan Un-ob

Mahidol University, Nakhon Pathom, Thailand

Teeradej Chai –Aroon

Mahidol University, Nakhon Pathom, Thailand

Prabda Praphasiri

Kasetsart University, Charlermphakiat Campus, Sakon Nakhon, Thailand

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RESEARCH ARTICLE

Caregiver's Perceptions of Nutritional Status in Children Aged Under Five Years in Nakhon Phanom Province of Thailand

Darunee Ditsungnoen^{1*}, Praphaphan Un-ob¹, Teeradej Chai –Aroon¹, and Prabda Praphasiri²

¹Population Education Program, Faculty of Social Sciences and Humanities,
Mahidol University, Nakhon Pathom, Thailand

²Faculty of Public Health, Kasetsart University, Charlermphakiat Campus, Sakon Nakhon, Thailand

*dadsn08@gmail.com

Abstract: This study was conducted to understand the caregivers' perceptions of nutritional status among children aged under five years in Nakhon Phanom province of Thailand. Qualitative research methods, such as participant observation, focus group discussion, and in-depth interviews, were used to collect data between February and July 2017. One rural sub-district with a high prevalence of child malnutrition was purposively selected, and a total of 36 caregivers were recruited. Triangulation and reflexivity were applied to reduce bias during data collection and analysis. The study findings indicated that caregivers perceived that good nutritional status in children equated to living and eating well, regardless of body size. However, most caregivers were worried that if their children were underweight, they would be blamed by society for not raising the children properly, be considered as poor, and would lose face. Although they perceived that the body size of children was due to hereditary factors, given a choice, they preferred their children to be fat as it signified good health and well-being. Children's nutritional status was a reflection of the caregiver's perceived social image and acceptance of their children in the community. These perceptions can mislead the caregivers to focus more on their social standing rather than on the quality or benefit of childhood nutrition. Although the caregivers should be oriented with appropriate health education regarding childhood nutrition and development, more emphasis is needed on developing better parenting skills to structure the child's eating habits and activity, and reducing social stigma and embarrassment associated with childhood malnutrition.

Keywords: caregivers' perception, nutritional status, children aged under five, Thailand

The nutritional status of children under five years of age is an important outcome measure of children's health (Abdulla, 2016). Conventionally, undernutrition has been a major cause of morbidity and mortality in children aged under five years in low and middle-income countries (Zhang et al., 2011; Kandala et al., 2011). With vast-ranging detrimental effects on mental development and physical growth, undernutrition

inhibits the potential of the affected society and its future generations (Grantham-McGregor et al., 2007; Victora et al., 2008). However, recent rapid economic development and urbanization in the low and middle-income countries have given rise to nutrition in which energy-dense diets have replaced traditional diets and a lifestyle that is largely sedentary (Tzioumis & Adair, 2014). This, in turn, has led to an increase in obesity

and diet-related chronic diseases, and there has been a shift from a predominance of childhood undernutrition to a dual burden of under- and overnutrition (Tzioumis & Adair, 2014).

Research has shown that a variety of interrelated factors are associated with childhood malnutrition (i.e., both under- and overnutrition). Some of the determinants are of biological origins such as age, health status, and heredity (Arthur et al., 2015; Kimani-Murage et al., 2011), whereas others can be of social origins such as wealth, financial constraints, and caregiver's education (Aiken et al., 2011; Barnett et al., 2013; Nguyen et al., 2012). Although most of the childhood malnutrition can be viewed as a product of broader social inequalities such as food insecurity, poverty, and living environment (Adali & Tezcan, 2013; Kanjilal et al., 2010; Kismul et al., 2015; Mizumoto et al., 2015), the role of the caregivers, especially parents, also exerts a large influence on children's nutritional status. Research findings confirm that the caregiver's involvement is critical in the efforts to reduce or increase their child's weight (Golan & Crow, 2004). It was also found that caregivers need to have an accurate perception of their children's nutritional status and understand the potential health consequences to make positive changes in their children's diet (Daddario, 2007; Rhee et al., 2005). However, studies from different countries indicated that most parents have varying misperceptions and responses to their child's malnutrition (Aljunaibi et al., 2013; Burtscher & Burza, 2015; Pedroso et al., 2017; Zhang et al., 2018). For instance, a study showed that many parents of malnourished children presumed that their child had a normal weight; most low-income mothers did not worry about their children's body weights if the children were active and socially accepted; and parents attributed childhood body weights to genetics, rather than to factors modifiable in the biological and social causes (Jain et al., 2001). A study in China revealed that a lack of sufficient knowledge and misconceptions about child nutrition among the parents made the children more prone to undernutrition (Wang et al., 2005). Caregivers frequently considered greater child weight as an indicator of good health, as also demonstrated in an Italian study (Antonino et al., 2012). On the contrary, in the U.S., due to growing discrimination towards obese individuals, parents of obese children often felt judged and stigmatized and avoided discussing their child's weights with other

family members (Puhl & Heuer, 2009; Puhl & Latner, 2007).

In Thailand, efforts have been made to address undernutrition among children aged under five years. Despite a decreasing prevalence, a considerable burden of undernutrition still exists among this group in the country, although childhood obesity has been on the rise in the last few years (Strategy and Planning Division, 2015). A study in 2018 showed that households with low socioeconomic conditions were more likely to be affected by the ill-effects of childhood malnutrition, such as stunting (Cetthakrikul et al., 2018). Likewise, another study showed that rural villagers in Northern Thailand did not perceive the benefits of monitoring the weight and height of children and were unclear about the extent of child malnutrition in the village (Roesler et al., 2018a). Perceptions of local caregivers can influence their decision making and functioning. However, little is known about their perception of childhood nutritional status, which may ultimately impact on identification, prevention, and treatment of childhood malnutrition. This study was conducted to explore the perceptions of caregivers of nutritional status in children aged under five years in a rural sub-district in Nakhon Phanom province of Thailand. Findings from this study may help to provide key information on the design of an appropriate system of care for under-five years old children in Thailand.

Methods

Study Design and Setting

Qualitative research was conducted in a rural sub-district in the Northeastern province of Nakhon Phanom in Thailand, located 735 km away from Bangkok. Nakhon Phanom province borders with Laos PDR, demarcated by the Mekong River, covers an area of 5,513 square km, divided into 12 districts and 99 sub-districts, and had a population of 715,833 in 2017 (Strategy and Planning Division, 2017). Most of the people are educated to at least primary school level. The economy is primarily agrarian, and the yearly per capita income was 67,847 Baht (US\$1,013) in 2016 (Department of Labour Protection and Welfare, Nakhon Phanom Province, 2016).

The rural sub-district was purposively selected as it had a high prevalence of early childhood malnutrition (both under and overnutrition). The selected sub-district was a pilot area of a larger study that aimed to

develop an early childhood care system. At the time of the study, the sub-district had 14 villages with 1,603 households and a total population of 7,405, among which 615 (8%) were children aged less than five years. The sub-district had no hospitals; the nearest district hospital was around 10 km away. Available government facilities in the sub-district included one health center, which focused on primary care and provided basic medical services without a doctor; one child development center; and one primary school. In each village, there were local health volunteers who helped the healthcare personnel such that one volunteer was responsible for around 15 households.

Participants

Participants included 36 caregivers who were living in the community and primarily responsible for taking care of their under-five children at the time of the study. The caregivers were either male or female biological parents or guardians of the children, who were selected by a purposive sampling such that there were caregivers of all three types of children: underweight, normal weight, and overweight.

Data Collection

Qualitative data were collected in a period of six months between February and July 2017, using participant observation, semi-structured focus group discussions (FGD), and one-on-one in-depth interviews (IDI) with the caregivers. The IDI and FGDs lasted about 60–90 minutes. Accessing the community was important at the beginning, for which the researchers used both informal and formal methods to coordinate with relevant organizations. The fieldwork was initiated by the female researcher (DD) by helping the local healthcare personnel to become more involved in the community. As the field researcher was a trained and experienced expert in public health, providing public health service alongside the local healthcare personnel became an ideal entry point to learn the context of the community. During the course of the study, the field researcher provided early childhood health services in the health facility, visited mothers and children in the community, measured weight and height of children, and participated in the community activities, where she also conducted participant observation.

The healthcare personnel selected two village health volunteers who lived in the community, knew well about the caregivers of children aged under five

years, and were willing to be research assistants to facilitate with local data collection. These research assistants accompanied the researchers to the participant's home or any other comfortable place as chosen by the participants and eased their participation in the study. One-on-one IDIs were conducted after explaining the study objectives and obtaining written informed consent. Permission was also sought from the participants to audio record the conversation. The interviews were held in the local language to allow participants to express themselves freely and to elicit local terminology. The data collection topics included demographics of caregivers: sex, age, education, occupation, income; and caregiver perceptions on nutritional status: meaning, child development, child body weight, and preferred nutritional status. The researchers explored perceptions of under-five childhood nutritional status among caregivers by beginning conversations with general questions on health status such as physical, emotional, social, and intelligence development. The researchers and caregivers then worked together to understand a problematic situation of children in the community by interviewing, group discussion, and reflecting upon the collected data.

Data Analysis

Field notes were taken after each interview and FGD. The interviews were audiotaped and transcribed in full, which were then imported to NVivo version 10 (QSR International, Melbourne) for analysis. Two researchers (DD and PP) read the transcripts and listened to the audiotapes to obtain an overall impression and applied an inductive approach to identify codes for units of meanings representing different aspects of caregivers. The general description of the codes was condensed, summarized, and grouped into sub-categories, and then onto main categories. Special considerations were given to the caregiver's use of language to describe and make sense of their realities and appropriate nutritional status issues. Triangulation and reflexivity were applied to reduce bias during data collection and content analysis. For example, the use of different methods such as IDI, FGDs, and observation allowed the researchers to explore any identified category of data until a nuanced understanding of the data was obtained. When any information was incomplete, unclear, or conflicting, the researchers went back to collect information again

by repeat interviews until the data was saturated. The participants were allowed to provide feedback on the research findings during a data reflection session. We also used descriptive statistics (numbers and percentage) to present the demographic characteristics and background of the participants.

Ethical Consideration

This study was approved by the Research Ethics Committee of the Faculty of Social Sciences and Humanities, Mahidol University (approval letter no. 2017/023.3101). Permission for data collection was also obtained from the Research Committee on Human Research at Nakhon Phanom Provincial Health Office (approval letter no. HE600002).

Results

Caregivers and Children Characteristics

The total participants included 36 caregivers of children aged under five years, of whom 34 (94%) were female and two (6%) were male. The median age of caregivers was 38 years. The youngest caregiver was 20 years old, whereas the oldest was aged 64 years. A total of 21 (58%) caregivers were parents (mother and father living together), 13 (36%) were grandparents, and two (6%) were single mothers. Of the 15 children under the care of single mothers and grandmothers, 11 (73%) children had parents working in other provinces and four (27%) children had parents living apart. Most caregivers were rice farmers (31; 86%) and were educated (30; 83%) up to different levels. Caregivers' average monthly income was 5,306 THB (Range: 2,000 - 12,000 THB). The participant caregivers took care of 38 children aged under five years, which included 20 boys (53%) and 18 girls (47%). The median age of the children was 2 years. Among 38 children, 76% of children had a normal weight, 18% exhibited low weight, and 5% were overweight.

Under-Five Child Care in the Community

In their daily life, children were cared for by their parents or other caregivers at their own houses. As there was no public playground for the children to play in, the children normally played inside the house premises. The parents and caregivers were observed to be more concerned about accidents occurring among children than other issues while taking care of them. Children normally received exclusive breastfeeding up

to six months after birth. At the age of two and a half years, the children became eligible for entry into the child development center. Parents regularly took their children to the health center to measure their growth and receive basic vaccination. Most of the children being cared for by their grandmothers had received only up to 1–3 months of exclusive breastfeeding, after which their mothers had to return to work at other provinces. Grandparents who took care of these children often failed to follow-up on important medical appointments of their grandchildren, such as for vaccination. To limit this, the healthcare personnel provided vaccination service at home. After completing the care at the child development center, the children would go on to be schooled at the kindergarten level.

Perceptions of Under-Five Childhood Nutritional Status Among Caregivers

All caregivers perceived that children's nutritional status is a physical development—being fat, thin, overweight, underweight, malnourished, normal, live well, and eat well. Caregivers were presented with differing perceptions from healthcare personnel about their children's weight. Caregivers were observed to be motivated to increase their children's weight if they were deemed underweight by the healthcare personnel but were reluctant to decrease weights of overweight children, fearing that the children may not grow properly in the future. Caregivers often visually compared their children's body sizes with that of other children to have a relative estimate of their child's nutritional status. Five important themes of their perceptions have emerged from the analysis of the qualitative data collected:

1) Caregivers Perceived That the Children's Nutritional Status is All Due to Heredity

Most caregivers, particularly in low-income households, did not give much importance to the body size of the child, whether the kids were small or large, short, or tall. They perceived that small child size did not indicate a problem because it was a result of unmodifiable hereditary factors. Instead of body size, caregivers' concerns were often regarding the ability of children to run and play as kids.

One grandparent (54 years old, IDI) opined, "Body size is not a big issue. It does not matter whether children are small or big as long as they are strong and able to run and play. Having a small body is usually

due to genetics; if the child's parents are small, the child will be small too"

Particularly, grandmothers believed that thin-bodied children were normal and did not find extra supplements for them. They felt that the food they prepared for the children was appropriate and enough in quantity. They wanted to feed their children and allow their children to do activities as other children, sometimes without considering the nutritional value of the food consumed. Some caregivers also presumed that for the same age, smaller sized children are able to move more actively and quickly, compared to the bigger sized children who are normally slower and inactive.

2) The stigma of "Poor" Caregivers for Underweight Children

Grandmother caregivers mostly felt that they were particularly stigmatized for not giving attention to malnutrition if the kids were underweight. When they were told about their grandchildren's undernutrition, they perceived that they were being blamed for raising the children poorly, being stingy, and not buying enough food or snack for them as the main cause of the children's undernutrition. Grandmothers worried that they would "lose face" and be considered as poor. Grandmothers often felt sympathy for their grandchildren as the parents had to move into the cities for work, and the children had to live apart from their parents.

One grandmother (53 years old, IDI) said, "When I was told that my grandchildren were thin or undernourished, I felt that I was being blamed by community members for not buying enough food or didn't have enough money to buy good food for my grandchildren."

Another grandmother (57 years old, IDI) said, "Raising a grandchild is not the same as raising one's own child. Not allowing the grandchild to eat snacks implies poor child-raising. He does not live with his parents. When looking at him, I have sympathy for him."

Grandparent caregivers were sensitive and felt upset if community people raised questions over their child's undernutrition. Moreover, grandparents felt pressure and feared being blamed by the parents of the child for failing to raise the child properly. It represented a burden, different from taking care of their own son or daughter because they can decide by themselves

without any worry or awaiting an opinion from other people.

On the contrary, young parent caregivers held differing beliefs than grandmother caregivers. Young caregivers did not feel blamed and actively sought nutritious food for the children if they knew their children were undernourished. They would buy supplements or would change the brands of milk in hopes that their children would drink more. They did not perceive undernutrition as alienating. To them, knowing that their children had undernutrition was good, because they could then find a solution.

A parent (29 years old, IDI) said, "I did not feel blamed when community member or healthcare worker told me that my child was underweight, but I would find some food, buy supplements, or change the brand of milk for my child."

3) Nutritional Status of Children is Reflective of Social Interaction of the Caregiver and Children

Although most caregivers were concerned with equality and prosperity, very few took meticulous care of the appropriate type and nutritional quality of food their children were eating. They wanted their children to do the same activities like other children and also fed similar kinds of foods other children were eating. This meant that, at many instances, the caregivers ignored the importance of the nutritional value of the food being consumed. Parents knew well that most junk foods are unhealthy. Nonetheless, they allowed the children to eat those less nutritious foods, first to ensure that their children got to eat like other children in the community, and second, to entice good behavior and obedience from the children. The nutritional status of children was influenced by the social interactions of caregivers and children with other caregivers and children in the community. Some caregivers were not concerned about the effect of nutritional status on child growth development or health management.

A parent (49 years old, IDI) said, "Parents and grandmothers don't do correct things. For example, they give snacks despite knowing that snacks are not healthy to eat. They want their children to eat food or snacks the same as other children in the community. Simply ignoring what is good and bad, they just let children eat the same as other children. Therefore, this causes malnutrition in children, unintentionally"

Children, on the other hand, use snacks to make friends. They employ snacks as a tool to gain attention and acceptance from friends. Consequently, friends will play or allow others to play with them. Snacks are popular and fashionable items. Children who have snacks are welcomed by friends.

A parent (36 years old, FGD) said, "I want my child to eat. He barely eats rice. But snacks... he is not stubborn once he gets a snack. I once noticed that when he gets snacks, he takes the lead in play. If he has snacks, he will have friends."

4) Overweight Children Signify Wealth and Good Social Image of the Caregiver

Bigger sized children were perceived as healthy by grandmother caregivers. All grandmother caregivers preferred fat children if they could choose because they felt that fat children were healthier, always in a good mood, and attracted more attention from people than thin children. Parents and caregivers frequently received admiration for giving good care if their children were fat. Caregivers usually took their fat children to community activities and felt satisfied when they saw other people playing with their children.

A grandmother (55 years old, FGD) said, "I like chubby kids. They make me want to play with them. They are cute. By noticing, nearly all fat kids are always in a happy mood. They are not petulant. When seeing snacks, I want to buy it for them..."

Some parents considered overweight as a problem for their children in the future when the children start going to school, but not necessarily at the current moment.

A parent (43 years old, FGD) said, "I myself think that an overweight child is not a problem when he or she was a preschooler. Overweight children may have a problem when they go to school or become teenaged"

5) Preferred Nutritional Status: Children Who Live Well and Eat Well

Well-nourished are those who live well and eat well. All caregivers used the words "live well" and "eat well" to signify good nutritional status. Live well or healthy meant that the child was not ill or those who can recover easily from mild illnesses, and can adapt to the environment. Eat well meant that the child ate food prepared by parents without skipping any meals or starving. The child had food to eat and was full at every meal.

One of the grandmother caregivers (52 years old, IDI) said, "Good nutritional status means...not having an illness. Whatever parents eat, the child eats too. Do not be hungry. Be full at every meal, have food to eat..."

The type of food and its nutritional value was of less importance to the caregivers. When choosing food, they would select those found commonly in the community such as pork, beef, milk, eggs, and fish. Eating well also meant that the child could eat the same food as other children, have no illness or infrequent and curable illness, develop properly, and live healthily. Children should be able to adapt to the environment.

One caregiver (38 years old, FGD) said, "... would like the child to eat, be strong and have no illness...can adapt to hot and cold conditions..."

Discussion

Caregivers perceived the meaning of children's nutritional status as an observable physical development and suggested that good nutritional status in children equated to living and eating well. For the caregivers, children's nutritional status was a reflection of their own social image and acceptance of their children in the community. The understanding of these local perceptions and their social implications can help in developing appropriate strategies to address childhood malnutrition in these settings.

An important finding to emerge from this study was that childhood nutritional status was attached to the social image and identity of the caregiver. Most caregivers were worried that if their children were underweight, they would be blamed by society for not raising the children properly, be considered as poor, and would lose face. This can be interpreted as a way of the people to attach meaning to situations in which they find themselves and which is strongly influenced by social comparison (Van Lange, 2008). As most of the caregivers were from families with low socioeconomic conditions in a remote village, they symbolized underweight children as a form of their poverty and feared facing social embarrassment and stigma for not being good parents. On the opposite spectrum, caregivers of fat children were held in high social esteem as the caregivers tied it with wealth and higher social status. To the caregivers, fat children

signified a good mother or a good caregiver. Obesity was not considered a problem until the children reached school-going age, after which they may risk being teased or being bullied (Eli et al., 2014). The finding that caregivers perceive overweight pre-school children as healthy is often replicated in studies from low and middle-income countries where childhood undernutrition has been a problem for many decades (Xu et al., 2010). In these countries, poverty and undernutrition go hand-in-hand and perpetuate the stigma associated with poverty. This is in sharp contrast from most western countries where it is obesity that is socially stigmatized. Caregivers of obese children in high-income countries often report difficulties in identifying and discussing their children's weight with other family members (Puhl & Heuer, 2009), ultimately affecting their own feelings (Eli et al., 2014). As obesity is associated with poor levels of subjective health status, particularly in terms of physical well-being (Doll et al., 2008), our findings suggest that caregiver misperceptions and preference of children's overweight status may lead to nutritional over-intake and pose significant barriers to positive change. Despite varying contexts and perceptions of caregivers in the previous studies, nutritional status of children has been found to have a deep social impact and affects the well-being of their caregivers globally (Black et al., 2013; Motlagh et al., 2011; Tzioumis & Adair, 2014).

Interestingly, most caregivers in our study perceived that children being small or large did not actually indicate a problem because body size was a result of heredity. This perception was accentuated in families with low household income and with grandparent caregivers who believed that the children would be small when their parents were small as well. Similar perceptions have been observed in previous studies, which explored childhood stunting in Thailand (Cetthakrikul et al., 2018; Roesler et al., 2018a), and maternal short stature has been found to be a strong predictor of stunting in rural Indonesia and Bangladesh (Oddo et al., 2012). The caregivers in this study viewed that if children were not sick and could play, run, and walk normally, they were healthy. They did not define nutritional status according to how height and weight measurements are plotted on the standard growth charts used by health professionals. Our findings affirm that villagers in Thailand often consider the strength and independence of children to be indicators of good

health rather than their size (Roesler et al., 2018a), and similar findings prevail among low-income communities in developed countries (Jain et al., 2001).

Although children's anthropometric measurements held less meaning to the caregivers in our study, they correctly recognized the ultimate goal of childhood nutrition was to ensure the children were active and functioning properly. This is a critical insight that can help improve the practices of public health education for nutrition. Instead of a heavy medical focus on the ill-effects of under or overnutrition during health education, public health professionals in rural and disadvantaged settings should divert their health promotion efforts to impart better parenting skills to the caregivers, especially young parents, to emphasize on the maintenance of a healthy and active schedule for the children, along with a balanced diet. We hypothesize that health care personnel may be more effective in preventing childhood malnutrition by focusing on these shared views on the goals of nutrition, rather than on labeling children as overweight or underweight, which may inadvertently reinforce the social stigma or continue the status quo. However, our hypothesis needs to be tested and confirmed by a larger study, which is representative of the Thai caregivers of children under five years old.

Although childhood malnutrition is a multifactorial and complex issue, understanding the perceptions of caregivers provides us with an insight to influence their practices and change community beliefs from a public health perspective. Nevertheless, like a previous study (Roesler et al., 2018b), our findings also suggest that these local caregiver perceptions are products of larger societal issues, such as poverty, migration of young mothers to urban areas for work and finding employment, limited access to nutritious food, and societal stigmatization of children with developmental disabilities, which require more attention. Future studies in these settings should focus on addressing the complexity and the wider social inequalities that may be driving the factors associated with childhood malnutrition in Thailand.

Limitations

This study has been reported in alignment with the consolidated criteria for reporting qualitative research (COREQ) (Tong et al., 2007), and some limitations of the study should be noted when interpreting the

results. Most caregivers in this study were female, and their opinions may not be representative of their male counterparts. As most caregivers of children are naturally their mothers or grandmothers, women empowerment in the community may have a positive impact on childhood nutritional status. This study was conducted in a rural area of the Northeastern province of Thailand. The findings may only be reflective of that rural area.

Conclusion

Childhood nutritional status has social and cultural meaning. Caregivers perceived that the child's nutritional status was recognized through physical development from their observation that the child did not become sick often, ate well, could function properly, and be socially accepted. However, societal misperceptions of obese children as healthy and caregivers of obese children as wealthy can be detrimental in tackling the increasing childhood obesity in the region. Although the caregivers should be oriented with appropriate health education regarding childhood nutrition and development, more emphasis is needed on developing better parenting skills to structure the child's eating habits and activity, and reducing the stigma and embarrassment attached with childhood malnutrition before managing or designing any care system for early childhood. Recognizing that caregiver perceptions are a product of larger social forces, future studies are needed to address the complexity and the social inequalities that directly or indirectly affect childhood malnutrition.

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Declaration of ownership

This report is my original work.

Conflict of interest

None.

Ethical clearance

This study was approved by the institution.

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