

## ORIGINAL ARTICLE

## PERCEPTION TOWARDS FOOD CHOICE AMONG LOW-INCOME FACTORY WORKER PARENTS OF PRE-SCHOOL CHILDREN IN NORTHERN THAILAND: A QUALITATIVE STUDY

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## ABSTRACT

Balanced and healthy eating habits in children may be one of the most important determinants of human health as well as good growth and development booster. Multiple factors in various contexts influence the formation of eating choices in childhood. To promote healthy food choices, it is necessary to understand the factors influencing food choices in pre-school children. Parents have been acknowledged to be an important factor impacting their children's eating habits. This study investigates parents' perspectives on children's food choices. The study was conducted utilizing in-depth interviews (IW) using two focus groups (FG). The participants included 44 parents (32 participants and 12 additional participants) of children aged between 2 and 5 years who work in the factory and live in a rural area of Hang Chat district, Lamphang province, Thailand. Participants were recruited with the assistance of Child-care center, (CCCs) staff followed the inclusion criteria. Participants were given a list of potential factors and asked to identify the top five factors influencing their child's eating choices. The responses were debated in a group. The discussion was recorded for later analysis. The results demonstrated that family income, child's dietary preferences, peer influence, food advertising/marketing, parental nutritional knowledge, and food availability in the markets or shops were ranked as the most influential factors. This study highlights new and essential topics for future research and may help develop parent-child interventions to improve good eating habits in pre-school children.

**Keywords:** Parent's perception, Food choice, Pre-school children

## INTRODUCTION

A well-balanced diet is essential for pre-school children's optimal growth and development throughout their rapid growth. Pre-school children have been highlighted as a pivotal stage in the development of food preferences that have been linked to adulthood<sup>1</sup>. The consistency of eating habits in pre-school children suggests that how children interact with their food environments may persist over time<sup>2</sup>. Studies in various geographical locations demonstrate that pre-school children's daily diet does not meet nutritional guidelines, particularly fruits and vegetables<sup>1</sup>. Furthermore, pre-school children consume more sugar, sodium, and fat-added foods and beverages, exceeding the daily recommendations. Reduced consumption of micronutrient-dense fruits and vegetables is linked to undernutrition and micronutrient deficits in young children. Furthermore, higher consumption of high-energy but low-nutrient meals and beverages increases the risk of malnutrition in pre-school children<sup>1, 3, 4</sup>. Therefore, establishing good food choices in pre-school children is crucial for prevention.

Multiple interacting elements in various contexts influence the formation of food preferences in children. Family (parents and siblings) is the

element that a child most interacts with<sup>1, 5</sup>. In the early years of children, they investigate and learn about foods such as what to eat, when to eat them, and how much to eat. They determine their food preferences and dislikes<sup>6</sup>. Although young children try to show some independence in their dietary choices, the ultimate responsibility for what a young child eats remains with the parents or caregivers as they create the child's dietary environment<sup>6, 7</sup>.

A recent study on food-related interventions among pre-school children in low and middle-income countries has shown that to promote healthy eating choices, family or parent's perception, household food availability, and family income are all essential modifiable factors<sup>8</sup>. As parents are the sentinel of their children's eating habits, it's vital to understand parents' perceptions on the issues that influence their children's food choices. Parents have a significant impact on children's early food experiences. Hence, it is vital to understand what factors motivate parents to choose certain foods for their children. Several qualitative studies have demonstrated that, in low-income families, significant factors influencing parental dietary choices include food cost, availability of food,

social relations, and psychological factors involving feelings of control and self-efficacy. In low-income households, practical considerations generally take precedence when it comes to food choices. For instance, price is one of the most motivating elements in food choice. Nutritious items are frequently considered prohibitively expensive<sup>9, 10</sup>. Parents can aid or hinder their children's development of healthy eating habits. If children see their parents consume an unknown or previously disliked food, the parents can urge children to try it, teach them to trust new foods, and minimize neophobic tendencies<sup>6, 11, 12</sup>. However, no previous research in Thailand has examined parental perspectives on pre-school children's food choices, particularly those of low-income factory-worker parents. Given the significant relevance of the family environment on pre-school children's eating habits as well as because of this, parents are the primary regulators of their children's eating and food products, it is critical to capture their viewpoints.

Understanding how parents make feeding decisions for their pre-school children is critical in determining what interventions can be developed to promote optimal nutrition. Therefore, this study examines the opinions of low-income parents, who work in a factory in northern Thailand, about feeding their children. The study was conducted using the qualitative method. In order to inform the development of a nutrition intervention to be implemented in parents in northern Thailand, the analysis focuses on the causes behind parents' food choices.

## METHODS

### Study design and participants

This qualitative study was undertaken between May and November 2021. Parents' perceptions of the factors impacting their children's dietary choices were investigated using two focus groups. Furthermore, in-depth interviews were conducted to thoroughly investigate each parent's perceptions of factors impacting their pre-school children's eating in a non-pressured environment. Participants included 44 pre-school children's parents attending CCCs in a suburban area of Hang Chat district, Lampang province, Thailand. Hang Chat District is one of the districts in Lampang Province with a large number of industrial factories, such as a brick factory, pottery factory, food factory. Many of these industrial factories employ both local and non-local residents. The majority of these workers had low incomes, with an average monthly household income of less than 10,000 baht. Children under the supervision of these workers are raised in child development centers (CCCs). According to preliminary surveys, many children have inadequate nutrition status. Therefore, it is

necessary to study the different environmental factors affecting the food intake of children in these areas. Two CCCs (one government-owned and one privately-owned) were purposively chosen from a list of CCCs registered under the Pong Yang Kok subdistrict municipality, it is a government agency in charge of local governance in Hang Chat district. Both CCCs consented to participate in this study. Participants were recruited with the assistance of CCCs staff. The selection criteria were the parents who have low-income, work in the factory, and are vulnerable and in need of support. All participants were able to communicate effectively in Thai and had children aged between 2 and 5 years. All participants signed a consent form before participating in the discussion groups.

For in-depth interviews, A parent information letter was given to all pre-school children in CCCs to take home and give to their parents. Parents who were interested in participating were asked to complete the form and return it to the researchers. The form asked the participants the time and place they were willing to participate. An interview was set up at a time and location regarding their preference. Following that, all parents who participated were questioned. Sampling was stopped when the interviewer determined that saturation had been attained.

### Focus group procedure

Focus groups were separately held with participants in CCCs to provide a comfortable environment for them to express their opinions. Each focus group included 15-17 people and the conversations lasted about 1.30 hours. Participants were initially requested to sign a consent form. All focus groups were led by an investigator (JW) assisted by a research assistant. The investigator emphasized the value of all participants' contributions to the discussion and stated that there were no "correct" or "wrong" responses. Discussions were conducted in the Lanna language, a language in northern Thailand. All discussions were taped. Participants were given a list of probable elements that could affect children's meal choices at the start of the discussion. The factors influencing food choices were adopted from earlier studies of Sirasa et al.<sup>1</sup> and Hayter et al.<sup>6</sup> as 1) gender of pre-school children, 2) age of pre-school children 3) food preferences of pre-school children 4) nutritional status of pre-school children 5) family size 6) parental nutritional knowledge 7) parental or family preference 8) parental eating behavior 9) parental cooking skill and food preparation facility 10) parental cultural food belief 11) household food storage 12) household food availability 13) peer influence 14) availability of food in the market, shop or supermarket 15) accessibility to market, shop, or supermarket 16) price of food 17) cultural food belief in the community 18) seasonal food

availability and 19) advertising or marketing of food. Participants were asked to pick the five most influential factors on their pre-school children's food choices regarding their beliefs from a list and score them from 1 to 5. The score of 1 indicated the most influential factor. The research assistant recorded the participants' answers on a flip chart. The factors chosen by 50% or more of the participants were discussed one by one. However, in order to provide complete information, the researcher asked the participants if there were any other factors that they thought would impact their pre-school children's food choices that were not included in the list. The additional factors mentioned were noted and discussed.

#### **In-depth interview procedure**

In-depth interview was separately held with the focus groups. The research team created interview questions that were pre-tested with 4 mothers for clarity, comprehension, and applicability. The purpose of the interview was to collect parental perspectives on factors that influenced the development of their pre-school children's food choices, as well as to investigate how parents make decisions about the food, they provided their children. The interview was conducted using a semi-structured format that followed the interview schedule, like the focus group. All interviews lasted 1 hour and were done by the same interviewer (JW). Interviews were tape-recorded and verbatim transcribed.

#### **Data analysis**

The open coding approach of thematic analysis, a standard qualitative methodological method, was utilized for focus group and in-depth interview data. The audio recordings were first used to create a verbatim textual transcription of the focus groups and in-depth interviews in the Lanna local languages. The accuracy of the transcripts was checked against the audio recordings, and then they were translated from Lanna local language to the official Thai language. Each interview transcript was scrutinized for main concepts and themes. Statements reflecting similar sentiments were sorted into themes that represented the data's key messages. To eliminate bias, a second researcher (YC) independently reviewed all interviews. Any discrepancies in the topic allocation were discussed and resolved.

## **RESULTS**

#### **Demographic characteristics of the participants**

All 44 participants (32 parents of focus groups and 12 parents of in-depth interviews) came from various families. Most of them were female, graduated high school, were 30 years old or older, and were all factory employees. The majority of them had a monthly household income between

10,000 and 15,000 Baht (approximately 320 - 500 USD).

#### **Perception Towards Food Choice among Parents of Pre-school children**

The following are the top five most influential factors: family income, food preferences of the child, peer influence and advertising/marketing of food, parental nutritional knowledge, and availability of food in the market or shop.

#### **Family income**

The majority of participants in both group discussions and in-depth interviews agreed that family income was the factor that most influenced the purchasing food of parents for their children. They substantiated that the family income determined the food budget of a family. The amount of money available was often a factor in parents' decisions to buy food for their children. They remarked that no matter how good or useful food was, they could not buy it if they did not have enough money. Buying cheaper food in larger quantities as an alternative. Results also showed that around two-thirds of participants did not use the nutrition facts panel. The following statements were obtained from the focus group.

"For low-income people like us, it is critical to buy food based on our financial situation. I admit that I bought the cheap foods in a large quantity" (Mother, FG11).

"I perceive that some foods are healthful, but they are pricey. I do not have enough money to purchase them" (Mother, FG7).

"I have never considered the nutritional value or read the nutrition label; I do not understand it. I just want to know if the food is within my budget" (Mother, IW12).

The participants stated that their family was burdened by a need for money while having a very modest salary. They needed to spend money on other things besides food. They claimed that spending all or a large amount of money on food choices may leave them with no money for other family activities. They had to save money for other unavoidable expenses such as rent or household bills.

"My family has a number of important matters that need money. I will not be able to do anything else if I spend all of my money on pricey cuisine" (Mother, FG16).

"I receive a wage from working at the factory for 300 baht per day. Therefore, if I have to spend it on medicine, my diet will suffer that day." (Mother, IW7).

#### **Food preferences of the child**

The second most important factor impacting food choice was the food preferences of the child.

Participants mentioned that choosing food according to a child's preferences resulted in several positive outcomes. For instance, their child had a good mood and did not refuse to eat. Parents were concerned about the food refusals when their child was given foods that they despised as follows:

"I choose the food that my child likes and wants to eat. Whenever I urge him to eat something he does not like, he will refuse or sometimes cries which is something I do not desire to see" (mother, FG1).

"Allowing my child to eat foods she dislikes is extremely challenging. Therefore, I solve this problem by choosing the food she likes" (Mother, IW3).

"My child asked for his preferred foods. I did offer even though I know the requested food is unhealthy" (Mother, FG5).

"My son chose colorful snack. I knew that it is useless and may have a negative effect on health or cause tooth decay but when he cried, I had to buy it for him" (Mother, IW2).

The above statements demonstrate that parents are aware that some of their children's favorite foods are unhealthy and nutritionally deficient. Nonetheless, they allow their children to eat them. They believe that parents should provide nutritious foods for their children even if they detest them.

#### **Peer and advertising/marketing of food**

Peer influence, along with food advertising/marketing, was identified as the third most significant factor in their children's food choices by participants. Moreover, parents acknowledged that peers were an important factor impacting their children's food preferences and intakes. They stated that their children requested foods that their peers ate at CCC. Parents described how their children's food choices and eating habits were influenced by other children as follows:

"My child refused to eat certain foods at home. However, he/she ate them at CCC." (Mother, FG29).

Most parents reported that food marketing strategies such as television advertising, and the use of attractive toys had an effective and ubiquitous influence on their children's food preferences. Parents believed that marketing techniques of food strongly influenced their child's food choice decision. Pre-school children's food choice was reported to be influenced by television advertisements and attractive packaging of foods presented in shapes and free toys as statement shown below:

"I think another factor that influences my daughter is free toys, cards, or anything that is advertised on TV. This is not due to a desire for the food. It is because she desires the toy" (Mother, FG17).

#### **Parental nutritional knowledge**

Participants ranked parental nutritional knowledge as the fourth most important factor influencing children's food choices. They claimed that parents' nutritional knowledge was essential for appropriately feeding their children. Furthermore, a large number of participants stressed that the food selection process may be influenced by a parental understanding of food qualities, food preparation abilities, and health links. Here is a statement obtained from the focus group.

"If parents have proper nutritional knowledge, they will be able to cook healthy meals for their children" (Mother, FG30).

Moreover, participants affirmed that they had little understanding and insufficient knowledge concerning the significance of nutrition in maintaining a healthy lifestyle. They revealed that nutritional knowledge was frequently acquired from educational background, training, reading, and occupation-induced information.

"I know very little about nutrition because I am not educated enough. I eat what I consider to be healthy, and I let my children eat like me" (Mother, IW11).

"I think all vegetables are the same. Therefore, I do not bother to choose vegetables for my child to eat" (Mother, FG20)

#### **Availability of food in the market or shop**

The available foods in the shop or retail stores were found to be an important factor influencing food purchasing decisions. Many participants who live in rural areas or low-income communities stated that the quality of foods sold at local markets and grocery shops was significantly worse than that of foods sold in supermarkets in higher-income neighborhoods. They were aware that food sold in the community market or shop was frequently cheap and of poor quality. However, due to various necessities, they could not refuse to buy those foods. Here are statements mentioned by participants:

"In my neighborhood market, food is offered for a low price because the majority of the customers have low-income. If it is sold for a high price, no one will buy it. However, I am aware that the lower the price, the lower the quality" (Mother, FG31).

Participants also mentioned that with the high cost of transportation, it was difficult to travel to a nicer store that was far away. Traveling to stores was



difficult and expensive, especially for those who did not own a car.

"It is inconvenient to travel too far because I will have to spend more money on gas or the bus" (father, FG28).

"I always seek for the nearest store since it saves me gas and occasionally there are goods that are cheaper there. If the store is far away, I must consider traffic, time, and gas. Therefore, I prefer to buy the food at the nearest store" (Mother, IW10).

Thus, despite having relatively simple geographic access to a market or shop, these participants are unable to gain entry to nutritious and high-quality food. This emphasizes the necessity of providing not only geographical and monetary access, but high-quality product accessibility is also important.

## DISCUSSION

This study examines parents' perceptions of factors impacting their pre-school children's food choices, specifically among low-income factory-worker parents in the north of Thailand. Results revealed that the five most influential factors were family income, food preferences of the child, peer influence and advertising/marketing of food, parental nutritional knowledge, and availability of food in the market or shop.

Family income was found to be the most significant factor that impacts choosing foods for pre-school children. The amount of money spent on food was determined by the household's income level, which varied depending on the socioeconomic status of the participants. This finding agreed with the studies of Roudsari et al.<sup>13</sup> and Sirasa et al.<sup>1</sup> which reported that low-income parents saved money by choosing discounted and low-quality foods. Meanwhile, participants with higher incomes chose more nutritious and high-quality foods. In low-income families, lack of money limited the types of foods that could be purchased as well as certain habits such as introducing new foods to their children<sup>6</sup>. This outcome corresponded with the previous studies which highlighted the impact of a limited budget on food choice<sup>14, 15</sup>. A lack of money limits food options and the ability to purchase healthier or better-quality foods, leading to a reduction in consumption of high-quality foods and a reluctance to experiment with new foods<sup>6</sup>. Although the parents would like to buy healthier foods for their family, their budget restraint limits their ability to purchase them, causing the parents to make regular compromises on specific goods in order to afford other necessary expenses.

Participants considered that individual child food preference was a crucial factor impacting pre-

school children's food choices. According to several studies, children's eating preferences influenced the food accessible to them<sup>16</sup>. Similar justifications for a child's food preferences such as flavor and look have previously been recorded<sup>17, 18</sup>. These foods are frequently nutritionally deficient or non-existent. Food preferences have regularly been demonstrated to be crucial in children's food intakes, despite a variety of individual and contextual variables. Existing food preference patterns, particularly in children, tend to obstruct the intake of a healthy diet by discouraging the eating of healthy foods while encouraging the consumption of non-core foods<sup>19</sup>. That is, children favor meals that are suggested to be taken infrequently or in little amounts (non-core foods), while foods that promote excellent health, such as vegetables, are the ones that are hated the most<sup>19, 20</sup>. Pre-school children are regarded to be in a sensitive period for learning about food acceptance<sup>19</sup>. Although it is critical to select food based on the child's preference, it is also essential to ensure that the child does not refuse to eat. Parents must, however, play a part in assisting children in selecting excellent and helpful food as well as explaining to children the need of eating nutritious foods and avoiding foods that may have harmful health impacts.

Furthermore, this study discovered that children's dietary preferences are influenced by their peers, which corresponded with a previous study that reported that peer was a major factor influencing pre-school children<sup>21</sup>. According to the studies of Houldcroft et al.<sup>21</sup> and Ragelienė & Grønhoj<sup>23</sup>, peers served as key role models for children's developing eating habits and attitudes. Houldcroft et al.<sup>21</sup> revealed that children's eating attitudes and habits were relevant to their peers. Peer modeling of food preferences and consumption can lead to an increase in children's consumption and the like of modeled foods. This was in line with social cognition theory, which emphasizes the importance of learning from key models' conduct<sup>22</sup>. Children's preferences and eating habits are influenced by their peers, as well as their observations of other people's eating patterns<sup>22</sup>. However, peer effect on eating behavior in children is not always favorable. Peer impact on children's food decisions often acts in the other manner, according to numerous research<sup>23, 24</sup>. Peer influence, for example, has been found to link with a child's consumption of unhealthy or junk foods such as sugar-sweetened beverages, crunchy snacks, and sweets<sup>22, 25</sup>. Hence, peer influence is a significant factor influencing pre-school children's food preferences and eating behavior during a development stage when peers gradually become an important source of knowledge about acceptable ways of activity<sup>22, 26, 27</sup>.

Most parents believed that appealing food advertising or marketing to children had a substantial impact on children's food requests. At all stages of their development, children are exposed to intensive marketing activity through a range of media and non-broadcast sources. Their significance can be seen in their brand recognition<sup>28</sup>. Children are more willing to try meals that have been advertised and are more likely to enjoy them<sup>29</sup>. Children's opinions about commercials are frequently found to be negatively connected with age. The younger the child is, the more probable he or she will have a good attitude toward television advertising. Almost entirely pre-school children can be attracted by visual media<sup>30</sup>. According to Elliott et al.<sup>31</sup>, pre-school children preferred the flavor of foods in beautiful wrappings, highlighting the importance of aesthetics.

The availability of food at a market or store was shown to be the least important factor affecting children's food choices. A previous study indicated that healthy food availability in rural areas was limited. Low-income neighborhoods have been observed to have fewer nutritious food options, compared to white high-income neighborhoods<sup>32</sup>. Zenk et al.<sup>33</sup> stated that the foods offered in retail food stores may provide hurdles to healthy eating. Furthermore, food-getting patterns are related to transportation availability<sup>34, 35</sup>. Walking to the nearest food source is linked to more unhealthy food, whereas being able to drive or utilize any mode of transportation is linked to healthier food<sup>34</sup>. Convenience and transportation cost was found to be the motivating factors for choosing a food source. Longer distances may be a deterrent to seeking alternative foods in the region<sup>34</sup>.

When compared to larger chain businesses, small local shops or markets tend to provide less healthful food alternatives<sup>36</sup>. Several studies have demonstrated that low-income rural communities have fewer shops or markets than high-income rural communities<sup>37, 38</sup>. Vulnerable populations, such as pre-school children, may struggle to receive a healthy diet and suffer an increased risk of diet-related disease if they do not have access to a good source of food with adequate quality. Hence, food availability at the markets and shops may be related to access to food sources as well as the type of foods used which are crucial factors determining the types of foods and food choices purchased by low-income group.

#### **The strength and limitations of this study**

The qualitative methodology used in this study allows researchers to gain a better understanding of the participants' personal opinions and experiences.

The study's key strength is we use the small focus group technique to investigate the parental perception of factors influencing pre-school children's food choices. Furthermore, the in-depth interview is well-suited to discover participants' perceptions and ideas of complicated and sensitive problems while allowing the researcher to determine whether a more thorough grasp or clarification of the response is required. This is the first study that includes a qualitative component in evaluating factors influencing pre-school children's food choices in low-income parents who work in a factory in northern Thailand. This research significantly contributes to the area of preschool children feeding research.

There are some limitations to our study. First, A convenience sample was taken from CCCs in the study area that was randomly selected. Hence, Parents who are concerned about their children's health may be overrepresented, which could lead to selection bias. Second, as certain parents are dominant, it is difficult to have all attendees fully participate in the debate. Third, the parents recruited to take part in this study may have been individuals who are more aware and concerned about fostering healthy habits among the children in their care, and they may have been given positive replies. Finally, Only the child's father or mother were chosen for this study, not the child's relative. In reality, some families in the community may live with relatives, particularly grandparents. This is a common way of life in Thailand's rural areas. As a result, the findings of this study may not fully reflect the broader population. The findings of this qualitative study are limited in their generalizability due to the demographic profile of the participants. However, there is a scarcity of research in rural areas. To understand food choices among low-income parents in relation to the promotion of healthy eating behaviors among pre-school children attending CCCs in Thailand, future quantitative research that builds on the qualitative findings described here is needed.

#### **CONCLUSION**

The perceptions of food choice among low-income factory worker parents of pre-school children are explored in-depth in this study. Notably, this research shows that some parents are in a quandary when buying food for their families. Dietary choices were influenced by several determinant factors. Family income, the child's food preferences, peer influence, food advertising/marketing, parental nutritional knowledge, and the availability of food in the markets and shops may inhibit some parents from purchasing healthy food for their children.

This study sheds light on parents' attitudes toward healthy eating and their reactions to food choices.

The findings in this research will benefit both researchers and practitioners working in the field of children's nutrition. Moreover, this study highlights new and important areas that can be included in future research. It might aid in the creation of parent-child interventions to encourage good eating habits in pre-school children.

#### Ethical Approval

The Ethics Research Committee of the Faculty of Public Health, Chiang Mai University approved this study (approval code: ET35/2020).

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#### Conflict Of Interest

None declared.

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