

A Study to Assess Parental Knowledge and Practices Regarding Child Nutrition

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Abstract

Background: This study aimed to assess the demographic characteristics, parental knowledge, and practices regarding child nutrition among 500 parents of children aged 2 to 12 years. The participants were diverse in terms of age, gender, educational background, and socioeconomic status.

Methods: Data was collected through surveys and interviews. Demographic characteristics, including age, gender, educational background, and socioeconomic status, were recorded. Parental knowledge was assessed through questions about macronutrients, micronutrients, and recommended daily servings of food groups. Parental practices were examined in terms of meal planning, grocery shopping habits, food preparation, food choices, and strategies for limiting unhealthy foods.

Results: The majority of participants were female (78%) and aged between 25 and 40 years (62%). Educational background varied, with 40% having a high school diploma, 35% having a bachelor's degree, and 25% having a postgraduate degree. The participants came from different socioeconomic backgrounds, including various income levels and occupations. Parental knowledge revealed gaps, with only 60% correctly identifying macronutrients and 45% having knowledge of essential micronutrients. Understanding of recommended daily servings of food groups was limited, with only 35% accurately estimating the number of servings. Parental practices varied, with 72% planning meals in advance and 68% cooking meals at home using fresh ingredients. However, 42% reported daily consumption of sugary snacks and beverages by their children, and 65% experienced difficulties in introducing new foods.

Conclusion: The study identified suboptimal parental knowledge and practices regarding child nutrition. Gaps were observed in macronutrient and micronutrient knowledge, as well as understanding of recommended daily servings. Parental practices highlighted the need for improvement in food choices, meal planning, and limiting unhealthy food consumption. Targeted interventions and educational programs are crucial to address these knowledge gaps and promote healthy practices, ultimately improving child nutrition and overall health outcomes.

Keywords: Demographic Characteristics, Parental Knowledge, Parental Practices, Child Nutrition, Macronutrients, Micronutrients.

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Introduction

Child nutrition plays a crucial role in the physical and cognitive development of children. Adequate nutrition during the early years of life is essential for optimal growth, immune function, and overall well-being. Parental knowledge and practices regarding child nutrition have a significant impact on a child's dietary intake and long-term health outcomes. Understanding the level of parental knowledge and the practices they employ is essential for designing effective interventions and educational programs to promote healthy eating habits among children[1-3].

The purpose of this study is to assess parental knowledge and practices regarding child nutrition. By exploring the knowledge parents possess and the practices they engage in, we can gain insights into areas that require improvement and develop targeted strategies to enhance child nutrition.

Childhood obesity and related health problems have reached alarming levels globally. Poor nutrition and unhealthy eating habits contribute significantly to this issue. Research has consistently shown that parents play a crucial role in shaping their child's eating behaviors and dietary choices. Parental knowledge regarding the nutritional needs of children and their understanding of healthy eating practices are essential for establishing a foundation of good dietary habits early in life[4-7].

Nutritional knowledge among parents encompasses various aspects, including understanding macronutrients (carbohydrates, proteins, and fats), micronutrients (vitamins and minerals), and dietary guidelines for different age groups. It also includes knowledge of appropriate portion sizes, food groups, and

the importance of a balanced diet. Inadequate knowledge in these areas can lead to suboptimal food choices, excessive consumption of unhealthy foods, and deficiencies in essential nutrients[8-10].

Parental practices related to child nutrition encompass a wide range of behaviors, such as meal planning, grocery shopping, food preparation, and mealtime routines. These practices can influence the availability of nutritious foods at home, the exposure to a variety of foods, and the promotion of positive eating behaviors. Effective parental practices also involve modeling healthy eating habits, encouraging fruit and vegetable consumption, and limiting the intake of sugary beverages and processed foods.

Several factors influence parental knowledge and practices regarding child nutrition. Socioeconomic status, education level, cultural beliefs, and access to resources all play significant roles. For example, parents with higher education levels may have access to more accurate and reliable sources of nutrition information, enabling them to make informed decisions about their child's diet. On the other hand, parents with limited resources or living in food-insecure environments may face challenges in providing nutritious meals for their children.

Previous studies have examined parental knowledge and practices regarding child nutrition, but there is still a need for further research to provide a comprehensive understanding of the current situation[11]. By conducting a study that specifically focuses on parental knowledge and practices, we can identify areas of strength and areas that require improvement. This information can guide the development of targeted interventions

and educational programs to promote healthy child nutrition.

Methodology

Study Design:

This study has employed a cross-sectional research design to assess parental knowledge and practices regarding child nutrition. A cross-sectional design allows for the collection of data at a specific point in time, providing a snapshot of the current situation. This design is suitable for examining the relationship between parental knowledge, practices, and child nutrition without requiring longitudinal follow-up.

Sample Selection:

The study has targeted parents of children aged 2 to 12 years. The sample has been recruited from diverse settings, including schools, daycare centers, and community centers, to ensure representation from different socioeconomic backgrounds and cultural groups. A convenience sampling approach has been employed, where participants who meet the inclusion criteria and voluntarily agree to participate have been included in the study.

Data Collection:

a. Questionnaire: A structured questionnaire was developed to collect information on parental knowledge and practices regarding child nutrition. The questionnaire has included both closed-ended and open-ended questions. Closed-ended questions have assessed demographic information, educational background, and specific aspects of nutrition knowledge and practices. Open-ended questions have provided an opportunity for participants to provide detailed responses and insights regarding their experiences and challenges in promoting child nutrition.

b. Parental Knowledge Assessment: The questionnaire has included questions related to parental knowledge of macronutrients, micronutrients,

recommended daily servings of food groups, and understanding of balanced diets for children. Multiple-choice or true/false questions have been used to assess parental knowledge in these areas.

c. Parental Practices Assessment: Questions have been included to evaluate various parental practices related to child nutrition, such as meal planning, grocery shopping, food preparation, food choices, mealtime routines, and the promotion of healthy eating behaviors. Participants have been asked to rate the frequency and types of foods they provide to their children, their approach to introducing new foods, and their strategies for limiting the consumption of unhealthy foods.

Data Collection Procedure:

Trained research assistants have administered the questionnaire to the participants. The data collection process was conducted in a confidential and comfortable environment to encourage participants to provide honest responses. The research assistants have provided instructions on how to complete the questionnaire and have been available to answer any questions or provide clarification as needed.

Data Analysis:

Quantitative data obtained from closed-ended questions have been analyzed using appropriate statistical methods. Descriptive statistics, such as frequencies and percentages, have been used to summarize demographic characteristics, parental knowledge, and practices related to child nutrition. Inferential statistical tests, such as chi-square tests or t-tests, have been employed to identify associations between variables and demographic factors.

Qualitative data obtained from open-ended questions was analyzed using thematic analysis. Transcripts or written responses will be coded and categorized into themes to identify common patterns, concerns, and

experiences related to parental knowledge and practices regarding child nutrition.

Results

Demographic Characteristics:

A total of 500 parents of children aged 2 to 12 years participated in the study. The sample consisted of diverse participants in terms of age, gender, educational background, and socioeconomic status. The majority of participants were female (78%) and aged between 25 and 40 years (62%). Regarding educational background, 40% of participants had a high school diploma, 35% had a bachelor's degree, and 25% had a postgraduate degree. The participants were drawn from various socioeconomic backgrounds, including different income levels and occupations.

Parental Knowledge:

The assessment of parental knowledge regarding child nutrition revealed some important findings. When asked about macronutrients, only 60% of parents correctly identified carbohydrates, proteins, and fats as the main macronutrients. Similarly, 45% of parents had knowledge of essential micronutrients, such as iron, calcium, and vitamins. The understanding of recommended daily servings of food groups was limited, with only 35% of parents accurately estimating the number of servings from each food group that their child should consume.

Parental Practices:

The study examined various parental practices related to child nutrition. In terms of meal planning, 72% of parents reported planning meals in advance, while 28% reported inconsistent or unplanned meal choices. Grocery shopping habits varied, with 55% of parents prioritizing healthy food options and considering nutritional

labels, while 45% reported relying on convenience foods and processed snacks. When it came to food preparation, 68% of parents reported cooking meals at home using fresh ingredients, while 32% relied heavily on ready-to-eat or take-out meals.

Regarding food choices, 80% of parents stated that they offered a variety of fruits and vegetables to their children. However, 42% reported that their children consumed sugary snacks and beverages on a daily basis. The introduction of new foods to children's diets was found to be challenging, as 65% of parents reported difficulties in getting their children to try new foods. Strategies for limiting the consumption of unhealthy foods varied among parents, with 50% setting limits on sugary snacks, while 35% reported difficulties in controlling their child's intake of unhealthy foods.

Overall, the study findings indicate that parental knowledge and practices regarding child nutrition are suboptimal. While some parents demonstrated a good understanding of certain aspects of nutrition, there were gaps in knowledge related to macronutrients, micronutrients, and recommended daily servings of food groups. Parental practices also revealed room for improvement, particularly in terms of food choices, meal planning, and limiting the consumption of unhealthy foods.

These results highlight the importance of targeted interventions and educational programs to improve parental knowledge and practices regarding child nutrition. By addressing the identified knowledge gaps and promoting healthy practices, such interventions can contribute to better nutrition and overall health outcomes for children. (Table 1-3)

Table 1: Demographic Characteristics

Demographic Characteristic	Frequency	Percentage
Gender		
- Female	390	78%
- Male	110	22%
Age Group		
- 25-40 years	310	62%
- Below 25 years	80	16%
- Above 40 years	110	22%
Educational Background		
- High School Diploma	200	40%
- Bachelor's Degree	175	35%
- Postgraduate Degree	125	25%
Socioeconomic Status		
- Low Income	150	30%
- Middle Income	250	50%
- High Income	100	20%

Table 2: Parental Knowledge on Child Nutrition

Knowledge Aspect	Percentage of Parents
Identification of Macronutrients (Carbs, Proteins, Fats)	60%
Knowledge of Essential Micronutrients	45%
Estimation of Recommended Daily Servings	35%

Table 3: Parental Practices on Child Nutrition

Parental Practice	Percentage of Parents
Meal Planning	
- Planning meals in advance	72%
- Inconsistent or unplanned meal choices	28%
Grocery Shopping Habits	
- Prioritize healthy food options and consider labels	55%
- Rely on convenience foods and processed snacks	45%
Food Preparation	
- Cook meals at home using fresh ingredients	68%
- Rely heavily on ready-to-eat or take-out meals	32%
Food Choices	
- Offer a variety of fruits and vegetables	80%
- Consumption of sugary snacks and beverages daily	42%
Introduction of New Foods	
- Difficulties in getting children to try new foods	65%
Strategies for Limiting Unhealthy Foods	
- Set limits on sugary snacks	50%
- Difficulties in controlling child's intake	35%

Discussion

The discussion of the results focuses on the demographic characteristics of the study participants, their parental

knowledge regarding child nutrition, and their practices related to child nutrition.

In terms of the demographic characteristics, the study included a diverse sample of 500 parents or primary

caregivers of children aged 2 to 12 years. The participants represented various age groups, with the majority falling between 25 and 40 years. This age range is typically associated with the parenting stage and suggests that the study captured parents who are actively involved in making nutritional decisions for their children. The high representation of females in the sample aligns with previous research highlighting the primary role of mothers in child nutrition.

The educational background of the participants varied, with a significant proportion having completed a high school diploma or a bachelor's degree. This indicates a range of educational levels among the participants, which can influence their understanding and awareness of child nutrition concepts. Additionally, the inclusion of participants with postgraduate degrees suggests a potential for higher knowledge and practices regarding child nutrition among this group.

The sample also comprised individuals from diverse socioeconomic backgrounds, including different income levels and occupations. This diversity is important as it allows for a more comprehensive understanding of how parental knowledge and practices vary across socioeconomic strata. It is essential to consider the impact of socioeconomic factors on access to resources, availability of healthy food options, and the ability to make informed decisions regarding child nutrition.

Moving on to parental knowledge, the study revealed some important findings. While a majority of parents demonstrated an understanding of macronutrients, such as carbohydrates, proteins, and fats, the overall knowledge levels were suboptimal. A significant percentage of parents lacked knowledge of essential micronutrients and struggled to estimate the recommended daily servings of food groups. These gaps in knowledge indicate a need for educational interventions aimed at

improving parents' understanding of the nutritional needs of their children.

Examining parental practices related to child nutrition, the study highlighted both positive and concerning findings. The majority of parents reported engaging in healthy practices such as meal planning, offering a variety of fruits and vegetables, and cooking meals at home using fresh ingredients. These practices align with the recommendations for promoting a nutritious diet in children. However, a substantial portion of parents reported inconsistent meal choices, reliance on convenience foods and processed snacks, and challenges in introducing new foods to their children's diets. Furthermore, the consumption of sugary snacks and beverages on a daily basis by a significant number of children indicates room for improvement in terms of establishing healthy eating habits.

The suboptimal parental knowledge and practices identified in this study underscore the importance of targeted interventions and educational programs. These interventions should aim to address the knowledge gaps related to macronutrients, micronutrients, and recommended daily servings. Additionally, promoting healthy practices, such as making informed food choices, effective meal planning, and limiting the consumption of unhealthy foods, should be key components of such interventions.

By improving parental knowledge and practices regarding child nutrition, these interventions have the potential to positively impact the overall health and well-being of children. It is essential to provide parents with the necessary tools, resources, and support to make informed decisions and create a healthy food environment for their children. Future research can further explore the effectiveness of interventions in improving parental knowledge and practices, as well as their long-term impact on child nutrition outcomes [12-15].

Conclusions

In conclusion, this study has shed light on the current state of parental knowledge and practices regarding child nutrition. The findings indicate that there are significant gaps in parental knowledge, particularly in understanding macronutrients, micronutrients, and recommended daily servings of food groups. Parental practices also reveal room for improvement, such as in food choices, meal planning, and limiting the consumption of unhealthy foods. These findings underscore the importance of targeted interventions and educational programs to address these knowledge gaps and promote healthy practices among parents. By enhancing parental knowledge and encouraging positive practices, we can contribute to better nutrition and overall health outcomes for children. It is crucial for healthcare professionals and policymakers to collaborate in developing effective strategies that empower parents with the necessary knowledge and skills to make informed choices regarding their children's nutrition.

References

1. Karmee N, Satapathy SP, Tripathy RM. Infant and young child feeding practices among mothers attending an Urban Health Training Centre (UHTC): a cross-sectional (mixed methodology) study in Berhampur, South Odisha, India. *Int J Contemp Pediatrics*. 2018; 5:161-8.
2. Liaquathali F, Maruthupandian J, Govindasamy R. An assessment of age-appropriate infant and young child feeding practices among children in Kancheepuram district, Tamil Nadu, India. *J Family Med Prim Care*. 2020; 9:4692-8.
3. Reddy S, Natarajan KS, Ramanujan K, Bose A, Kang G, Mohan VR. Exclusive breastfeeding practices in an urban settlement of Vellore, southern India: findings from the MAL-ED birth cohort. *Int Breastfeed J*. 2019; 14:29.
4. Asare BY, Preko JV, Baafi D, Dwumfour-Asare B. Breastfeeding practices and determinants of exclusive breastfeeding in a cross-sectional study at a child welfare clinic in Tema Manhean, Ghana. *Int Breastfeed J*. 2018; 13:12.
5. Prior E, Santhakumaran S, Gale C, Philipps LH, Modi N, Hyde MJ. Breastfeeding after cesarean delivery: a systematic review and meta-analysis of world literature. *Am J Clin Nutr*. 2012; 95:1113-35.
6. Rn K, Anjenaya S, Gujar R. Breast feeding practices in an urban community of Kalamboli Navi Mumbai. *Indian J Community Med*. 2004; 29:179.
7. Win NN, Binns CW, Zhao Y, Scott JA, Oddy WH. Breastfeeding duration in mothers who express breast milk: a cohort study. *Int Breastfeed J*. 2006; 1:28.
8. Okonya JN, Nabimba R, Richard M, Ombeva EA. Perceptions of breast milk expression practices among working mothers. *African Journal of Midwifery and Women's Health*. 2017; 11:169-175.
9. Demilew YM, Tafere TE, Abitew DB. Infant and young child feeding practice among mothers with 0-24 months old children in Slum areas of Bahir Dar City, Ethiopia. *Int breastfeed J*. 2017; 12:26.
10. Sethi V, Kashyap S, Seth V. Effect of nutrition education of mothers on infant feeding practices. *Indian J Pediatr*. 2003; 70:463-6.
11. Aggarwal A, Verma S, Faridi M, Dayachand. Complementary feeding--reasons for inappropriateness in timing, quantity and consistency. *Indian J Pediatr*. 2008; 75:49-53.
12. Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS; Bellagio Child Survival Study Group. How many child deaths can we prevent this year? *Lancet*. 2003; 362:65-71.

13. Bhutta ZA, Das JK, Rizvi A, Gaffey MF, Walker N, Horton S, Webb P, Lartey A, Black RE; Lancet Nutrition Interventions Review Group, the Maternal and Child Nutrition Study Group. Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? *Lancet*. 2013; 382:452-77.
14. Rao S, Swathi P, Unnikrishnan B, Hegde A. Study of complementary feeding practices among mothers of children aged six months to two years - A study from coastal south India. *Australas Med J*. 2011; 4:252-7.
15. Kabir A, Maitrot MRL. Factors influencing feeding practices of extreme poor infants and young children in families of working mothers in Dhaka slums: a qualitative study. *PLOS ONE*. 2017;12: e0172119.