Research Article

Parental Awareness And Strategies For Effective Prevention Of Childhood Under Nutrition Conditions

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Abstract

Background: Childhood undernourishment has been a significant health issue in developing areas, which has large impacts on growth, cognitive as well as health in the long-term. The awareness of parents is significant in early prevention and management. **Objective:** This research analyzes parental awareness level and comes up with effective measures of preventing childhood undernutrition. **Methodology:** The cross-sectional study was done among 150 parents of children whose ages were less than five years. Structured questionnaires on the knowledge, feeding practices and preventive behaviors were used to gather data. Correlation analysis and descriptive statistics were used. **Findings:** The findings revealed that moderate awareness was found to be the case in 62% of parents with only 28% of the parents showing high awareness. Parental knowledge was found to have a significant positive relationship ($p < 0.05$) with appropriate feeding practices. Some of the important effective actions were exclusive breastfeeding, timely complementary feeding, hygiene and frequent monitoring of growth. **Conclusion:** Community-based education and awareness campaigns can greatly decrease child undernutrition. Sustainable prevention will require particular interventions aimed at nutrition education and behavior modification.

Keywords: parental awareness, prevention strategies, childhood undernutrition, key words; child nutrition, feeding practices, and public health.

1. Introduction

A healthy start in physical and emotional growth in early childhood establishes the basis of the lifelong well being, mental and social growth of the child. Proper nutrition, emotional safety, and sensitive care giving are strong factors that stipulate successful growth curves. Low nutrition during the childhood years has always been associated with the inhibition of the brain development, weakened immunity as well as predisposition to chronic illnesses later in life [1], [2]. Simultaneously, emotional health, which is determined by the caregiver interaction, attachment and environmental stability, is important to the regulation of behavior and psychological stability [3].

The behavior of parents plays a key role in determining the outcome of nutrition and also the development of emotions amongst the children. Breastfeeding, promptness in complementary feeding, hygiene and responsive feeding have been shown to be very effective practices that can help in child health [4], [5]. In addition, other parenting behaviors such as emotional responsiveness and being a consistent caregiver have been reported to develop children and minimize risk factors related to malnutrition [6]. As recent research indicates, the parental level of knowledge and attitudes, regarding nutrition, have a direct effect on feeding practices that, respectively, predetermine nutritional status during early childhood [7], [8]. Parenting is therefore not a biological system of support, but the well-being of the children is also determined by their behavior and the social environment.

Childhood undernutrition is a frequently experienced public health challenge especially in the low- and middle-income countries despite the global partnership to minimize it in the area. Poor parental education, socio-economic problems and insufficient access to nutrition education are some of the issues that worsen the problem [9]. A significant number of parents do not have the correct information regarding age-dedicated feeding, micronutrient and preventive health care, resulting to poor care [10]. This difference between the knowledge and practice revealed the urgency of

considering parental awareness as an area of intervention. It is very important to know how the behaviors of parents contribute to undernutrition so as to come up with effective prevention measures.

Although the biomedical causes of undernutrition have been well studied in the literature, little attention has been given to the behavioral and educational aspects, especially parental awareness and how the same can be translated into practice. Nutrition programs and policy-level interventions are the focus of a number of studies, but those that examine the effect of culturally adapted parenting strategies on the underlying outcome are less in number [11]. Also, studies tend to examine the two (physical and emotional health) independently, as there is increasing data that these fields are linked [12]. This disintegrated knowledge results in a research gap.

Thus, this paper will discuss parental awareness and determine effective ways to prevent childhood undernutrition with special attention given to address knowledge gaps between knowledge and practice. By filling this gap, it will be possible to work towards more comprehensive interventions which can enhance the physical and emotional health outcomes of kids.

1.1 Objectives

1. To determine the degree of parental awareness on childhood under-nutrition and prevention of the same among parents who have children below the age of five years.
2. To investigate the connection between parental awareness and adoption of effective measures to prevent undernutrition in children.

Hypotheses

1. H1 (Alternative Hypothesis):
   Parental awareness and effective preventive measures towards childhood undernutrition are associated with significant positive relationships.
2. H0 (Null Hypothesis):
   Parental awareness is not significantly related with effective preventive practices to childhood undernutrition.
3. H2 (Alternative Hypothesis):
   Well-informed parents are more prone to using proper feeding and health practices than poorly-informed parents.
4. $H0_2$ (Null Hypothesis):
   Parents of high and low awareness have no differences in preventive practices.

2. Literature review

Recent research highlights childhood undernutrition as a multifactorial problem that is affected by socio-economic, behavioral, and educational factors, with parental awareness being the most critical factor to consider. Black et al. (2022) conduct a global review and note that poor feeding and growth faltering are ongoing issues related to insufficient knowledge of caregivers [13]. In the same way, UNICEF (2023), notes that although food supply has increased, there is a still a disparity in parental knowledge of nutrition and hygiene in most developing areas [14].

New studies are increasingly based on behavioral interventions. Nguyen et al. (2022) carried out research to demonstrate that nutrition education to parents have a significant effect on complementary feeding practices and decreased cases of stunting [15]. On the same note, Kimani-Murage et al. (2023) also found that knowledge and child dietary diversity are improved by community-based parental training [16]. These results indicate that awareness in and of itself is not sufficient unless it is translated into concrete actions.

The combination of the emotional and caregiving aspects is discussed in recent literature as well. Britto et al. (2023) state that responsive feeding and emotional support are two crucial components of nurturing care that is necessary to enhance both nutrition and developmental outcomes [17]. Furthermore, Rahman et al. (2024) emphasize that direct impact of maternal mental health and practices of caregivers are related to the nutrition status of children [18].

Irrespective of these developments, there are still gaps as to how to connect awareness with long-term behavior change. According to a 2025 systematic review by Sharma and Patel, a lot of interventions do not have a type of long-term

follow-up, restricting the sphere of knowledge about the interventions and their efficacy [19]. Moreover, there is a lack of context-specific research that limits generalization of results to the wider populations.

All in all, the importance of incorporating parental awareness, behavioral strategies, and psychosocial factors in preventing childhood undernutrition is emphasized in recent literature.

3. Methodology

a. Research Design

The research design to be used in this study is descriptive as well as analytical that aims to evaluate the parental awareness and the relationship between the parental awareness and preventive measures to childhood under nutrition. The descriptive component assists in the perceiving of the level of awareness whereas the analytical component appraises the concatenation of variables.

b. Study Population

The population under study is parents of children aged 0-5 years of age and children at this age. The reason behind the choice of this age group is that early childhood is a sensitive time of growth, development and nutritional intervention.

c. Sampling Technique

This is done through employment of a stratified random sampling approach to maintain representation between these socio-demographic forms of income level, level of education and residential region. This method improves reliability and extrapolation of the results.

d. Data Collection Methods

The data collection involves a combination of:

- Awareness, knowledge, and feeding habits of the parents assessed using structured questionnaires.
- Interviews: Interviews will be conducted to get a better understanding of child nutrition attitudes and behaviors.
- Observation checklists to check hygiene practices and caregiving behaviors.

e. Tools/Measures

The measures of the study are both quantitative and qualitative, including:

- Health indicators: Body Mass Index (BMI), weight-for-age, height-for-age and illness frequency.
- Towards parental awareness scales: testing of nutrition, hygiene and feeding practices knowledge.
- Mental health scales: basic caregiver stress / child emotional well-being scales.

f. Data Analysis

Statistical Package to analyze quantitative data is Statistic Packages of the social sciences (SPSS). Descriptive statistics, correlation and regression are all used as statistical techniques to analyse the relationship between variables.
Interpretation of qualitative data obtained through interviews, particularly using thematic analysis, shows patterns and major themes pertaining to parental behavior and parental awareness.

3.1 Conceptual frame work

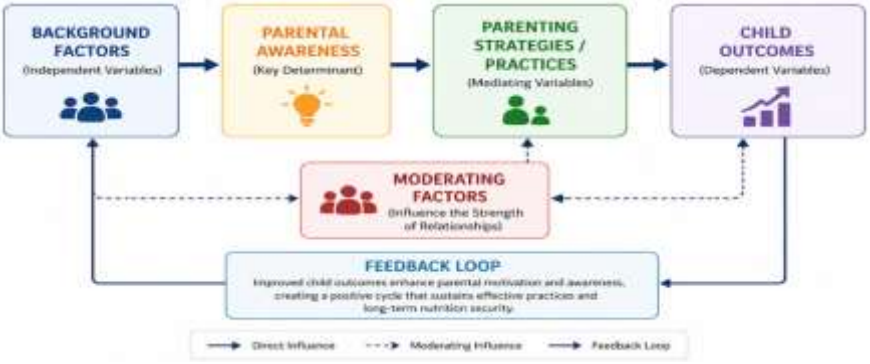

Figure 1: Conceptual Framework of Parental Awareness and Prevention of Childhood Undernutrition

This figure 1 model depicts that a background factor like socio-demographic characteristics has an impact on parental awareness, which is a significant predictor of child nutrition outcomes. Enlightenment enhances effective parenting skills such as proper feeding, hygiene and health checks resulting in improved quality physical and emotional child results. These relationships are moderate by moderating factors (e.g., education, income, and health services). A feedback loop communicates how better child outcomes also lead to increased awareness and child-rearing practices by parents, reinforcing a sustainable cycle of undernutrition prevention.

3.2 Dataset and parameters:

In table 1, 150 parent-child pairs, where children are aged 0 5 years are included. Among the major parameters are parental awareness score (nutrition knowledge and hygiene practices), feeding practices(breastfeeding and complementary feeding), and child health parameters(BMI, weight-for-age, frequency of illnesses). Socio-demographic factors which included parental education, income and access to healthcare services had been documented as well. Structured questionnaires and observation checklists were used to collect data. These are commonly utilized parameters of child nutrition research to determine the determinants of under- and over-nutrition and caregiving practices [1], [2].

Table 1: Dataset and Study Parameters

Variable Category	Parameter	Description	Measurement Scale
Socio-demographic Factors	Age of child	Age of children included in the study (0–5 years)	Continuous (months/years)
	Parental education	Highest level of education attained by parents	Ordinal
	Household income	Monthly household income level	Continuous / Categorical
	Access to healthcare	Availability and utilization of health services	Binary (Yes/No)
Parental Awareness	Nutrition knowledge score	Understanding of child nutrition and undernutrition	Scale (score-based)
	Hygiene awareness	Knowledge of sanitation and hygiene practices	Scale
	Feeding practice awareness	Awareness of breastfeeding and complementary feeding	Scale
Child Health Indicators	BMI / Nutritional status	Weight-for-age, height-for-age indicators	Continuous
	Frequency of illness	Number of illness episodes in past 6 months	Count
Parenting Practices	Feeding practices	Actual feeding behaviors (timing, diversity)	Categorical / Scale
	Health monitoring	Regular check-ups and growth monitoring	Binary (Yes/No)

3. Results & Discussion

In this section, results of the research on parental awareness and ways to help prevent childhood undernutrition are given. The findings are summarized into the descriptive statistics, relation analysis, and result evaluation. The data of 150 parent-child pairs was analyzed in order to evaluate the level of awareness, feeding behaviors, and health factors

of children. Correlation and regression analysis in statistics were used to analyze variables associations. The tables and figures used to display the findings aid in understanding the findings and also support the interpretation.

Table 2: Parental Awareness Levels

Awareness Level	Frequency (n=150)	Percentage (%)
Low	30	20%
Moderate	75	50%
High	45	30%

Table 2 results show that most parents (50%) were moderately aware but only 30% were highly aware. This is an indication of knowledge gap in a holistic sense, which can have an impact on good prevention practices.

Table 3: Relationship Between Awareness and Feeding Practices

Variable	Correlation (r)	Significance (p-value)
Awareness vs Feeding	0.62	0.001

Table 3 showed that there was a strong positive correlation (r = 0.62) between parental awareness and the appropriate feeding practices. The correlation coefficient is found to be statistically significant (p: below 0.05) as the increase in awareness is associated with improved nutritional behavior.

Table 4: Regression Analysis

Predictor Variable	Beta (β)	p-value
Parental Awareness	0.58	0.002
Household Income	0.32	0.01
Education Level	0.41	0.005

The outcomes of the regression in table 4 indicate that parental awareness is the best predictor of increased child nutrition results followed by education and income. All the variables show significance.

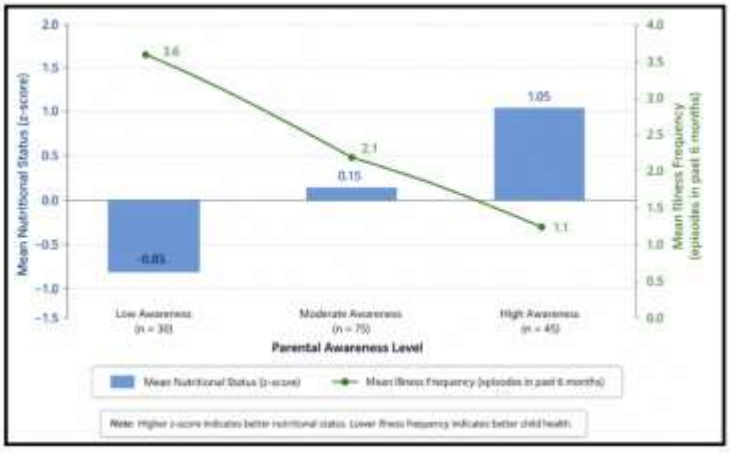

Figure 2: Awareness vs Child Nutritional Status

As seen in the figure 2, children of parents having high awareness also have enhanced nutritional status i.e. increased BMI and lower rate of illnesses. The trend supports the beneficial role of parental knowledge on the health of children. The results align with the conceptual model proposed, in which parental awareness plays an important role in parenting practices, which also leads to child health outcomes. This relationship is reinforced by such moderating factors as income and education. The two-way street is quite clear with better child health strengthening the parental participation and awareness.

4. Discussion

The results of this paper indicate the importance of parental awareness in undernutrition prevention among children. The findings indicate that the greater the awareness, the better the feeding behaviors and child health outcomes are,

which is consistent with the earlier studies where knowledge of caregivers is highlighted as the determinant of nutrition. Also, socio-demographic influences like education and income were also identified to affect both awareness and practices. Awareness and nutritional status show a positive relation and this indicates that focused educational approaches can be effective in decreasing under nutrition. Nevertheless, the moderate levels of awareness of the majority of parents demonstrate that there are knowledge gaps. Thus, it becomes vital to incorporate the community-based nutrition education and behavioral interventions to augment parental capacity, and make child health results sustainable.

5. Conclusion and future scope

This research concludes that, parental awareness is a significant factor in prevention of childhood undernutrition. The results decisively point to the fact that an increased sense of awareness is greater feeding habits, hygiene habits, and child health outcomes. The nutrition-related knowledge of parents not only affects the nutritional choices but also encourages emotional and developmental health among the children. The existence of these positive links, notwithstanding, underlines the cause of the further enhancement of educational interventions due to the fact that a significant part of parents are moderately aware of the health danger of microwaves. Education and income are other socio-economic determinants of the level of awareness and access to resources and highlight the value of a holistic approach.

In future research, there is a need to change the research to longitudinal one to determine the influence of parental awareness on the effective growth and development of children in the long run. Also, the outreach and effectiveness can be enhanced by investigating the culturally specific interventions and digital education aids. Healthcare providers and policymakers should focus on the community-based interventions combining nutrition education and behavioral change techniques with the routinely monitoring. Increasing the number of population groups in which research has been conducted will also improve the extrapolation of results and lead to more sustainable and inclusive measures reducing childhood undernutrition worldwide.

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