

ASSESSMENT OF KNOWLEDGE AMONG NURSES REGARDING THE PREVALENCE OF MALNUTRITION IN CHILDREN UNDER THE AGE OF 5 YEARS

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Abstract: Malnutrition remains a critical public health issue in Pakistan, significantly affecting children under five years of age. Nurses play a pivotal role in identifying, managing, and preventing malnutrition. However, their knowledge and practices regarding malnutrition prevalence often remain insufficient. **Objective:** This study aims to evaluate the knowledge, attitudes, and practices of nurses at a tertiary care hospital in Pakistan regarding malnutrition among children under five years of age. **Methods:** A descriptive cross-sectional study was conducted at Children's Hospital Lahore over three months. A sample of 90 degree-holding staff nurses was selected using purposive sampling. Data were collected using a structured questionnaire covering demographics, knowledge about malnutrition forms, clinical features, risk factors, diagnostic methods, attitudes, and practices. Statistical analysis was performed using SPSS version 22.0 to calculate frequencies, percentages, and associations. **Results:** The study revealed significant knowledge gaps among nurses regarding malnutrition. Only 35.6% correctly identified Vitamin A deficiency as the most common form of malnutrition, and 47.8% incorrectly identified overweight as a clinical feature. Most nurses (46.7%) considered lack of education a key risk factor, while 41.1% cited poverty. Confidence in identifying malnutrition was low, with only 22.2% feeling very confident. Despite this, 75.6% reported screening children for malnutrition, and 82.2% used growth charts. However, only 1.1% of nurses expressed a strong willingness to provide nutritional education. **Conclusion:** The findings highlight critical gaps in the knowledge and attitudes of nurses, which could impact the quality of malnutrition care. While practices such as screening and documentation were common, limited confidence and willingness to provide education suggest a need for targeted training programs. Strengthening nurses' capacity to manage malnutrition is essential to improving pediatric health outcomes in Pakistan.

Keywords: Malnutrition, Nurses' Knowledge, Pediatric Health, Prevalence, Pakistan, Nutritional Care

Introduction

Malnutrition remains a significant public health issue in Pakistan, particularly affecting children under five years of age. According to UNICEF, Pakistan has one of the highest rates of malnutrition in South Asia, with stunting, wasting, and underweight prevalence rates of 40.2%, 17.7%, and 28.9%, respectively (1). Malnutrition in early childhood leads to compromised growth, cognitive impairment, and an increased risk of mortality (2). The double burden of malnutrition—coexisting undernutrition and obesity—is also emerging in urban settings due to shifts in dietary patterns and lifestyle changes (3).

Nurses play a pivotal role in identifying, preventing, and managing malnutrition among children. Their responsibilities include regular growth monitoring, nutritional assessment, and providing dietary counseling to families. However, in Pakistan, the knowledge of nurses about malnutrition prevalence and its determinants is often limited due to inadequate training and resource constraints (4). Addressing these gaps is crucial for improving health outcomes among vulnerable populations, particularly children under five, who are at a critical stage of physical and cognitive development (5).

Several socioeconomic factors contribute to malnutrition in Pakistan, including poverty, illiteracy, food insecurity, and lack of access to healthcare facilities (6). While the

government and non-governmental organizations have initiated multiple programs, such as the National Nutrition Program and community-based interventions, the impact remains suboptimal (7). Nurses' understanding of malnutrition's prevalence and risk factors is essential to enhancing the effectiveness of these initiatives. Globally, evidence suggests that training healthcare providers, particularly nurses, in nutritional assessment and counseling significantly reduces the prevalence of malnutrition in children (8). In Pakistan, there is a dire need to assess nurses' knowledge and identify barriers to effective implementation of nutritional care practices. This study aims to evaluate nurses' understanding of malnutrition prevalence among children under five years and highlight areas requiring targeted interventions to improve pediatric health outcomes.

Methodology

This study employed a descriptive cross-sectional quantitative design to assess the knowledge of nurses regarding the prevalence of malnutrition in children under the age of five years. The research was conducted at Children's Hospital Lahore, a leading tertiary care hospital in Pakistan that specializes in pediatric healthcare. The study was carried out over a period of three months and targeted degree-holding staff nurses employed at the

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hospital. The inclusion criteria required participants to be degree-holding nurses currently working at Children’s Hospital Lahore who provided informed consent to participate in the study. Non-medical staff, administrative personnel, and nurses not meeting the inclusion criteria were excluded. The sample size consisted of 90 nurses, determined based on the anticipated frequency of malnutrition knowledge and a 95% confidence level. A purposive sampling technique was used to recruit participants.

Data were collected using a structured questionnaire designed to evaluate the nurses’ knowledge, perceptions, and practices regarding malnutrition. The questionnaire included sections on demographic details such as gender, age, marital status, professional qualifications, and ward assignment. It also assessed knowledge about the common types, clinical features, diagnostic methods, and risk factors of malnutrition. Additionally, it included items on attitudes, such as confidence levels and willingness to provide nutritional education, as well as practices related to malnutrition screening and management.

The collected data were analyzed using SPSS version 22.0. Descriptive statistics, including frequencies and percentages, were calculated for categorical variables. Cross-tabulation was performed to explore relationships between the nurses’ qualifications and their knowledge or perceptions of malnutrition risk factors. One-sample t-tests were also conducted to determine whether observed means differed significantly from hypothetical test values. This methodological approach ensures a comprehensive analysis of the nurses’ knowledge, attitudes, and practices regarding malnutrition in children under five years.

Results

The demographic data of the 90 participating nurses showed a predominantly female sample (81.1%), with males constituting 18.9%. Most participants were mid-career professionals aged 36–45 years (47.8%), followed by 21–35 years (35.6%), and 46+ years (16.7%). Over half were married (51.1%), while 38.9% were unmarried, and 10% were divorced or separated.

Educationally, the largest group comprised Staff Nurses (43.3%), followed by Senior Staff (35.6%), Diploma Holders (16.7%), and Lady Health Visitors (4.4%). Ward assignments were diverse, with most nurses in the Maternity ward (41.1%), followed by the ICU (22.2%), Pediatric (14.4%), Medical (13.3%), and Surgical wards (8.9%). This

varied demographic ensured a wide range of perspectives on malnutrition care among children under five. (Table 1)

The findings in table 2 indicate significant gaps in nurses’ knowledge regarding malnutrition. When asked about the most common form of malnutrition in Pakistani children, 35.6% identified Vitamin A deficiency correctly, followed by 32.2% citing Protein Energy Malnutrition (PEM). Iron and Zinc deficiencies were less frequently recognized at 24.4% and 7.8%, respectively. Regarding risk factors, 46.7% identified lack of education as a key contributor, while 41.1% pointed to poverty. Interestingly, 12.2% incorrectly considered adequate food supply as a risk factor. Clinical features of malnutrition were often misunderstood, with 47.8% incorrectly identifying overweight as a common sign, while only 40.0% correctly noted edema. This reflects the need for targeted education to improve clinical knowledge. (Table 2)

Nurses displayed mixed confidence levels regarding their ability to identify malnutrition. While 36.7% felt slightly confident, only 22.2% expressed high confidence. Similarly, the perceived importance of addressing malnutrition varied, with 38.9% considering it slightly important and only 20% deeming it very important. Regarding preventability, 46.7% believed malnutrition could be prevented, but 41.1% expressed skepticism. Notably, willingness to provide nutritional education was low, with 38.9% not willing and only 1.1% very willing. These findings underscore the need to foster positive attitudes and greater confidence among nurses in managing malnutrition. (Table 3)

The majority of nurses reported engaging in key practices related to malnutrition care. Screening for malnutrition was common, with 75.6% of respondents confirming participation. Similarly, 77.8% had documented nutritional status in medical records, and 75.6% had provided nutritional education to parents. Referrals to dietitians or nutritionists were also high at 72.2%. The most frequently utilized tool was growth charts, used by 82.2% of nurses. These findings suggest that while nurses are actively involved in malnutrition-related practices, the gaps in knowledge and attitudes could impact the quality of care. (Table 4)

The majority of nurses (75.6%) acknowledged poverty as a significant contributing factor to malnutrition in children. However, 24.4% did not consider poverty as a factor, reflecting a knowledge gap that needs to be addressed. This highlights the need for increased awareness and training to better understand and address the socioeconomic determinants of malnutrition.

Table 1: Demographic Characteristics of Participants

Variable	Category	Frequency	Percentage
Gender	Male	17	18.9%
	Female	73	81.1%
Age Group	21–35 Years	32	35.6%
	36–45 Years	43	47.8%
	46+ Years	15	16.7%
Marital Status	Married	46	51.1%
	Unmarried	35	38.9%
	Divorced/Separated	9	10.0%
Qualification	Senior Staff	32	35.6%
	Staff Nurse	39	43.3%
	Diploma Holder	15	16.7%

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Ward Assignment	Lady Health Visitor	4	4.4%
	ICU	20	22.2%
	Maternity	37	41.1%
	Pediatric	13	14.4%
	Medical	12	13.3%
	Surgical	8	8.9%

Table 2: Knowledge and Perception of Nurses Regarding Malnutrition

Question	Response Option	Frequency	Percentage
What is the most common form of malnutrition in Pakistani children?	Vitamin A Deficiency	32	35.6%
	Protein Energy Malnutrition	29	32.2%
	Iron Deficiency	22	24.4%
	Zinc Deficiency	7	7.8%
Which of the following is not a risk factor for malnutrition in Pakistani children?	Poverty	37	41.1%
	Lack of Education	42	46.7%
	Adequate Food Supply	11	12.2%
Which of the following is a common clinical feature of severe acute malnutrition in children?	Edema	36	40.0%
	Overweight	43	47.8%
	High Blood Pressure	11	12.2%
Which of the following is a sign of severe acute malnutrition in children?	Weight Loss (10%)	32	35.6%
	Swelling of Feet and Hands	30	33.3%
	Mild Anemia	22	24.4%
	Mild Dehydration	6	6.7%
How is malnutrition diagnosed in children?	Physical Examination	33	36.7%
	Blood Test	31	34.4%
	Height and Weight Measurement	20	22.2%
	Urine Analysis	6	6.7%

Table 4: Practices Related to Malnutrition Care

Question	Response Option	Frequency	Percentage
Have you screened children for malnutrition?	Yes	68	75.6%
	No	22	24.4%
Have you documented a child's nutritional status in their medical record?	Yes	70	77.8%
	No	20	22.2%
Have you provided nutritional education to parents of malnourished children?	Yes	68	75.6%
	No	22	24.4%
Have you referred malnourished children to a registered dietitian or a nutritionist?	Yes	65	72.2%
	No	25	27.8%
Have you used growth charts to monitor a child's growth and nutritional status?	Yes	74	82.2%
	No	16	17.8%

Table 3: Attitudes and Willingness of Nurses

Question	Response Option	Frequency	Percentage
How confident do you feel in your ability to identify malnutrition in children?	Not Confident at All	20	22.2%
	Slightly Confident	33	36.7%
	Moderately Confident	17	18.9%
	Very Confident	20	22.2%
How important do you think addressing malnutrition in children is?	Not Important	24	26.7%
	Slightly Important	35	38.9%
	Moderately Important	13	14.4%
	Very Important	18	20.0%
To what extent do you believe malnutrition in children can be prevented?	Cannot Be Prevented	37	41.1%
	Can Be Prevented	42	46.7%
	Can Definitely Be Prevented	11	12.2%
How willing are you to provide nutritional education and counseling to families of malnourished children?	Not Willing	35	38.9%
	Slightly Willing	33	36.7%
	Moderately Willing	21	23.3%
	Very Willing	1	1.1%

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Table 5: Perceptions about Contributing Factors

Question	Response Option	Frequency	Percentage
To what extent do you believe poverty is a major contributing factor to malnutrition in children?	It is not a contributing factor	22	24.4%
	It is a contributing factor	68	75.6%

Discussion

The findings of this study highlight significant gaps in the knowledge, attitudes, and practices of nurses regarding the prevalence of malnutrition among children under the age of five years. Despite their critical role in pediatric care, many nurses demonstrated limited awareness of key aspects of malnutrition, including its common forms, risk factors, and clinical signs. This aligns with previous studies conducted in South Asia, where healthcare providers' knowledge about malnutrition was found to be inadequate due to limited training and resource constraints (9).

The results showed that only 35.6% of nurses correctly identified Vitamin A deficiency as the most common form of malnutrition in children under five. This is consistent with reports from other low- and middle-income countries (LMICs), where knowledge of micronutrient deficiencies among healthcare providers remains insufficient (10). Furthermore, nearly half of the respondents incorrectly identified overweight as a clinical feature of malnutrition, indicating a potential misunderstanding of the double burden of malnutrition, which encompasses both undernutrition and over nutrition (11). These findings emphasize the need for comprehensive training programs that address both undernutrition and emerging issues like childhood obesity.

The mixed attitudes observed among nurses, particularly the low confidence in identifying malnutrition, highlight a critical barrier to effective intervention. Only 22.2% of nurses expressed high confidence in their ability to diagnose malnutrition, which is consistent with findings from studies in similar settings (12). The lack of confidence may stem from inadequate exposure to nutritional assessment tools during training. Additionally, the low willingness to provide nutritional education (with only 1.1% being very willing) underscores the need for motivational strategies and incentives to enhance engagement in nutritional counselling (13). Encouragingly, most nurses reported engaging in key malnutrition-related practices, such as screening children (75.6%), documenting nutritional status (77.8%), and using growth charts (82.2%). These findings reflect an active involvement in malnutrition care despite the gaps in knowledge and attitudes. However, the high rates of referrals to dietitians (72.2%) may indicate a reliance on specialist input due to perceived limitations in their own expertise (14). Integrating malnutrition modules into nursing curricula and continuous professional development programs could bridge these gaps (15).

Addressing malnutrition in Pakistan requires a multifaceted approach. Training nurses in evidence-based nutritional care is paramount, as they serve as the first point of contact for many children and families. National initiatives, such as the National Nutrition Program, must prioritize capacity building among healthcare providers to improve the effectiveness of interventions (16). Additionally, the government should allocate resources to ensure the

availability of growth monitoring tools, nutritional supplements, and community-based counseling services (17). This study was conducted in a single tertiary care hospital, which may limit the generalizability of the findings. Future research should include a larger sample size and explore the impact of targeted training interventions on nurses' knowledge and practices. Furthermore, qualitative studies could provide deeper insights into the barriers faced by nurses in implementing nutritional care.

Conclusion

In conclusion, while nurses in Pakistan actively participate in malnutrition-related practices, significant gaps in knowledge and attitudes hinder optimal care. Addressing these gaps through targeted training, policy support, and resource allocation is essential to reduce malnutrition rates and improve pediatric health outcomes.

Declarations

Data Availability statement

All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate

Approved by the department concerned. (IRBEC-SNU-02122/23)

Consent for publication

Approved

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The authors declared absence of conflict of interest.

Author Contribution

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Coordination of collaborative efforts.

Study Design, Review of Literature.

SANA ASGHAR (Student)

Conception of Study, Development of Research Methodology Design, Study Design, Review of manuscript, final approval of manuscript.

Conception of Study, Final approval of manuscript.

ZARNIGAR (Supervisor)

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