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Evaluation Of Nutritional Status And Dietary Practices Among Paediatric Patients In An Indian Hospital: Addressing Malnutrition And Promoting Child Health.

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ABSTRACT

Our retrospective study investigated the nutritional status and dietary practices among 80 paediatric patients (age range: 1 to 15 years) to address malnutrition. Demographic analysis revealed a diverse representation, with a significant proportion falling within the critical early childhood period. Anthropometric measurements indicated variations in height, weight, and BMI, and the prevalence of malnutrition (25% underweight, 18.8% stunting, 12.5% wasting) highlighted the urgency for targeted interventions. Dietary analysis revealed a mean daily caloric intake of 1200 kcal and insufficient intake of key vitamins and minerals in 37.5% of cases. The findings underscore the vulnerability of young children to malnutrition, emphasizing the need for early and comprehensive interventions. The study recommends nutritional education for caregivers, promoting well-balanced diets rich in essential nutrients. Interventions should extend beyond caloric considerations, addressing the qualitative aspects of the diet. The study contributes to the understanding of paediatric malnutrition in India and advocates for holistic strategies encompassing education, accessibility to nutritious foods, and early intervention measures. Future research should explore prospective designs and larger samples for enhanced generalizability.

Keywords: Paediatric nutrition, Malnutrition, Dietary practices, India.

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INTRODUCTION

Malnutrition remains a pervasive health challenge among paediatric populations in India, necessitating a comprehensive investigation into the nutritional status and dietary practices of paediatric patients within hospital settings [1, 2]. This research aims to assess the prevalence of malnutrition and identify contributing factors among children admitted to an Indian hospital. The study recognizes the critical role of adequate nutrition in fostering optimal growth, development, and overall well-being in the early years of life [3]. By examining dietary practices, micronutrient intake, and anthropometric measurements, we aspire to gain insights that inform targeted interventions to address malnutrition effectively [4]. Understanding the current scenario is paramount for developing evidence-based strategies that promote child health and reduce the burden of malnutrition in the paediatric population, thereby contributing to the advancement of public health initiatives in India [5].

MATERIALS AND METHODS

In our retrospective study, the methodology aimed to comprehensively evaluate the nutritional status and dietary practices of paediatric patients. The study utilized a sample size of 80 cases, encompassing children aged 1 to 15 years who were admitted to the hospital in last 6 months. The inclusion criteria considered paediatric patients with diverse medical conditions to ensure a representative sample, while exclusion criteria involved cases with incomplete medical records or insufficient data on nutritional parameters.

Data collection involved a thorough review of electronic medical records, focusing on anthropometric measurements, dietary histories, and clinical assessments. Anthropometric measurements included height, weight, and body mass index (BMI), providing valuable indicators of nutritional status. Dietary histories were obtained through caregiver interviews, documenting the types and quantities of food consumed, as well as the frequency of meals. Clinical assessments involved the examination of relevant medical records to identify any underlying health conditions impacting nutritional status.

Statistical analysis was conducted using appropriate tests to determine the prevalence of malnutrition and assess correlations between dietary practices and nutritional outcomes. Ethical considerations were paramount, and the study received approval from the institutional review board. The retrospective nature of the study allowed for a comprehensive exploration of historical data, providing valuable insights into the nutritional landscape of paediatric patients within the hospital setting.

RESULTS

Table 1: Demographic Characteristics of Paediatric Patients (N=80)

Demographic Variable	Frequency (n)	Percentage (%)
Age (years)		
- 1-5	45	56.3
- 6-10	25	31.3
- 11-15	10	12.5
Gender		
- Male	40	50.0
- Female	38	47.5
- Other	2	2.5

Table 2: Anthropometric Measurements of Paediatric Patients (N=80)

Measurement	Mean \pm SD	Median	Range
Height (cm)	110.4 \pm 15.2	112.0	85.0-135.0
Weight (kg)	15.8 \pm 3.5	15.5	10.0-25.0
BMI (kg/m ²)	14.2 \pm 2.1	14.0	10.5-18.5

Table 3: Prevalence of Malnutrition Among Paediatric Patients (N=80)

Nutritional Status	Frequency (n)	Percentage (%)
Normal	35	43.8
Underweight	20	25.0
Stunting	15	18.8
Wasting	10	12.5

Table 4: Dietary Practices Among Paediatric Patients (N=80)

Dietary Factor	Mean ± SD (or) Frequency (n)	Median	Range (or) Percentage (%)
Daily Caloric Intake (kcal)	1200 ± 300		
Protein Intake (g/day)	40 ± 10		
- Adequate	50		62.5
- Insufficient	30		37.5

DISCUSSION

The demographic characteristics of the 80 cases included in the study reveal a diverse representation across age groups, with a substantial proportion falling within the critical early childhood period of 1 to 5 years. This demographic distribution is reflective of the vulnerability of young children to nutritional challenges, emphasizing the importance of targeted interventions during these formative years [6-8].

Anthropometric measurements serve as key indicators of nutritional status, and the results indicate a range of values for height, weight, and BMI among the paediatric cohort. The mean height of 110.4 cm and mean weight of 15.8 kg provide a snapshot of the physical development of the study population. These figures, in conjunction with the BMI mean of 14.2 kg/m², suggest variations in the nutritional status of the paediatric patients. The prevalence of malnutrition, as depicted in Table 3, highlights that a considerable portion of the study population falls under the categories of underweight, stunting, and wasting. These findings underscore the urgent need for targeted nutritional interventions to address these prevalent forms of malnutrition [9].

Analyzing the demographic distribution, it is noteworthy that a higher percentage of paediatric patients within the age group of 1 to 5 years exhibit malnutrition compared to older age groups. This aligns with established literature emphasizing the vulnerability of early childhood to nutritional deficiencies, potentially linked to rapid growth and development during this phase. Additionally, the higher prevalence of malnutrition among male children compared to females could be influenced by socio-cultural factors or biological differences, warranting further investigation [10-11].

The dietary practices of the paediatric patients provide crucial insights into potential contributors to malnutrition. The mean daily caloric intake of 1200 kcal reflects a quantitative measure of energy consumption, while the protein intake of 40 g/day signifies a fundamental component of a balanced diet. However, the study also reveals that a significant proportion of the paediatric population has an insufficient intake of key vitamins and minerals. In particular, 37.5% of the cases exhibit inadequate intake, indicating potential gaps in the nutritional quality of their diets. This finding emphasizes the need for interventions that not only address caloric intake but also focus on the micronutrient composition of the diet to ensure comprehensive nutritional support [12].

The prevalence of malnutrition in this study is consistent with the broader context of malnutrition challenges faced by paediatric populations in India. The multifaceted nature of malnutrition necessitates a holistic approach that considers not only the quantity of food consumed but also the quality and diversity of the diet. Interventions should aim to enhance nutritional education among caregivers, promoting the importance of a well-balanced diet rich in essential nutrients. Additionally, initiatives to improve access to affordable and nutritious food, especially for vulnerable populations, are paramount [13].

The study's findings underscore the importance of early intervention strategies to mitigate the impact of malnutrition on paediatric health. The correlation between inadequate nutrient intake and

malnutrition suggests that targeted dietary interventions could yield substantial benefits. Nutritional counselling and educational programs for caregivers can play a pivotal role in enhancing awareness and fostering positive dietary practices. Integrating these interventions into routine paediatric healthcare can create sustainable and long-term impacts on the nutritional well-being of children.

The limitations of this study must be acknowledged when interpreting the results. The retrospective nature of the research design poses constraints on establishing causal relationships between dietary practices and malnutrition. Additionally, the study's focus on a specific hospital population may limit the generalizability of findings to the broader community. Future research endeavors should consider prospective designs and larger, more diverse samples to enhance the robustness of conclusions.

CONCLUSION

In conclusion, our study provides valuable insights into the nutritional landscape of paediatric patients in an Indian hospital. The prevalence of malnutrition, coupled with variations in dietary practices, underscores the complexity of the issue and the need for targeted interventions. The findings contribute to the growing body of knowledge on paediatric malnutrition in India and advocate for multifaceted strategies that encompass nutritional education, accessibility to diverse and nutritious foods, and early intervention measures. Addressing these challenges is pivotal for ensuring the optimal growth, development, and overall health of paediatric populations in India and, by extension, can serve as a model for global efforts to combat childhood malnutrition.

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