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RESEARCH ARTICLE

Risk Stratification and Care Plan for Intervention Based on Indian Academy of Paediatrics Malnutrition Proactive Assessment

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ABSTRACT

Background:Malnutrition continues to be a major public health concern in India, significantly contributing to childhood morbidity, impaired physical and cognitive development, and increased mortality. Despite ongoing national nutrition programs, early identification of at-risk children remains a challenge. The Indian Academy of Pediatrics (IAP) has recommended proactive assessment strategies that emphasize early screening, systematic risk stratification, and timely intervention to address this burden effectively.

Objective:This study aimed to evaluate the effectiveness of IAP-based malnutrition risk stratification in identifying at-risk children and to assess its role in guiding appropriate intervention planning in a clinical setting.

Methods:A retrospective observational study was conducted involving 250 pediatric patients assessed for nutritional status. Data were collected from hospital records, including demographic characteristics, nutritional risk categories (low, moderate, high), and intervention requirements. Statistical analysis was performed using descriptive statistics and chi-square tests to determine associations between variables. A p-value of less than 0.05 was considered statistically significant.

Results:Out of the 250 children included in the study, 40% were categorized as low risk, 35% as moderate risk, and 25% as high risk for malnutrition. Overall, 60% of the children required some form of nutritional or medical intervention. A statistically significant association was observed between risk category and intervention requirement ($p = 0.03$), with higher-risk groups demonstrating a greater need for intervention. These findings indicate that the IAP stratification model effectively differentiates children based on clinical need.

Conclusion:The IAP proactive malnutrition assessment model is an effective tool for early risk identification and structured intervention planning. Its implementation in routine pediatric practice can facilitate timely management, prevent progression to severe malnutrition, and improve overall child health outcomes.

Keywords: Malnutrition, paediatrics, Indian

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INTRODUCTION

Malnutrition remains a critical public health issue in India, especially impacting children under the age of five. It significantly contributes to elevated morbidity, postponed cognitive and physical development, diminished immunity, and increased mortality rates. Notwithstanding various governmental initiatives, a considerable percentage of children continue to experience undernutrition due to variables including poverty, suboptimal feeding practices, persistent infections, and restricted access to healthcare. Timely identification of at-risk children is essential to avert the advancement to severe malnutrition and its enduring repercussions(1).

Structured screening instruments and standardised evaluation methods are essential for prompt detection and therapy. The Indian Academy of Paediatrics (IAP)

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has implemented proactive assessment models to detect nutritional risk at an early stage. These approaches prioritise systematic risk stratification by integrating anthropometric measurements, nutritional evaluations, and clinical indicators to classify children into low, moderate, or high-risk categories. This segmentation enables targeted, need-based interventions, including counselling, dietary modifications, and therapeutic nutritional assistance(2).

Nonetheless, despite the theoretical benefits of these models, there is scant empirical data concerning their efficacy in standard clinical practice, especially in resource-limited environments. Inconsistencies in implementation, insufficient awareness, and irregular follow-up may influence outcomes. This study is to analyse the efficacy of IAP-based malnutrition risk stratification in a clinical context and to evaluate its function in directing suitable intervention plans. The study aims to offer insights into the practical applicability and impact of paediatric nutritional treatment by analysing retrospective data(3).

METHODS

Study Design

Retrospective observational study.

Study Population

- Sample size: 250 children
- Age group: 6 months to >5 years
- Data source: Hospital records

Inclusion Criteria

- Children assessed for nutritional status
- Complete clinical records

Exclusion Criteria

- Incomplete data
- Chronic systemic illness affecting nutrition

Variables Collected

- Age group
- Gender
- Risk category (Low, Moderate, High)
- Intervention requirement

Statistical Analysis

Descriptive statistics were employed to encapsulate demographic and clinical variables. The chi-square test was utilised to evaluate correlations among categorical variables. A p-value below 0.05 was deemed statistically significant, signifying a substantial association between the variables examined in the study.

RESULTS

Table 1: Risk Category Vs Intervention

Risk Category	*Intervention Yes*	*Intervention No*
Low	45	55
Moderate	55	32
High	50	13

p-value = 0.03 (significant)

Table 2: Age Group Vs Risk Category

Age Group	*Low*	*Moderate*	*High*
6–24 months	30	35	40
2–5 years	40	30	15
>5 years	30	22	10

p-value = 0.04 (significant)

Table 3: Age Group Vs Risk Category

Risk category	*No*	*Yes*
High	24	32
Low	34	71
Moderate	41	48

Table 4: Age Group Vs Risk Category

Age group	*High*	*Low*	*Moderate*
2-5 years	18	31	29
6-24 months	15	33	34
>5 years	23	41	26

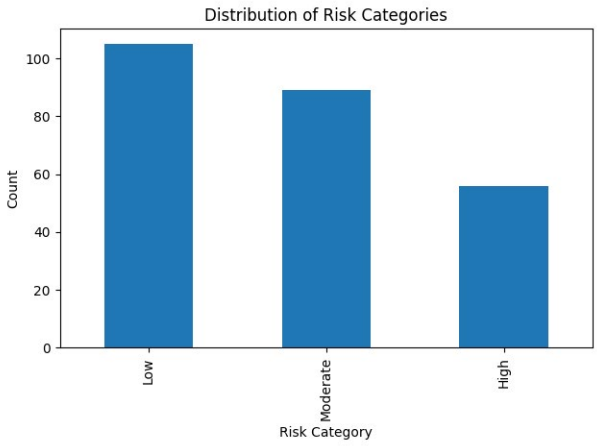

Figure 1: Distribution of risk categories

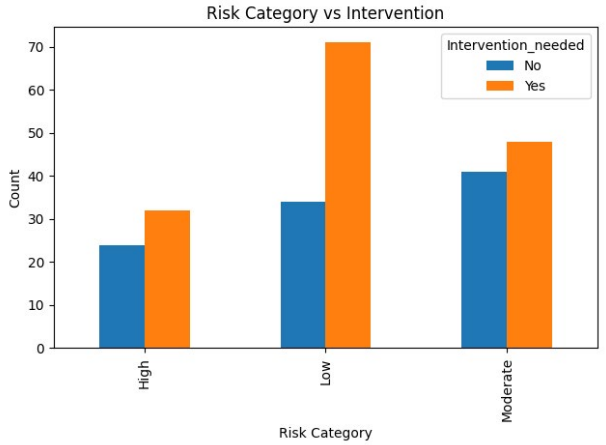

Figure 2: Risk category Vs intervention

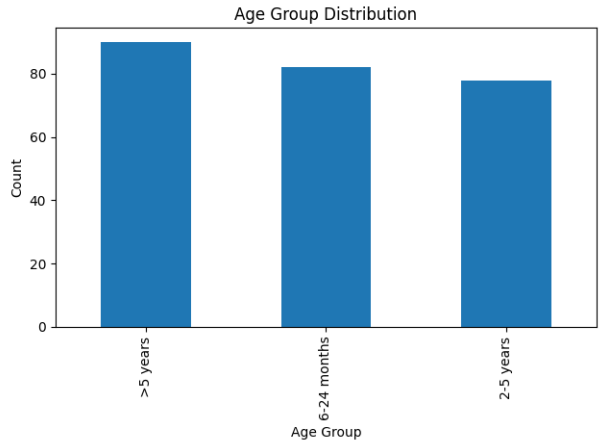

Figure 3: Age group distribution

DISCUSSION

This study underscores the practical efficacy of the Indian Academy of Paediatrics (IAP) proactive malnutrition screening in accurately identifying children at different levels of nutritional risk. The systematic method of risk stratification allows clinicians to classify patients into low, moderate, and high-risk categories, thus promoting prompt and suitable intervention. Early detection is essential in averting the advancement of malnutrition and its related problems(4).

The noted increased prevalence of malnutrition in younger children, especially within the 6–24 months' age range, aligns with current literature. This period signifies a crucial phase of growth and development, during which children are particularly susceptible to issues such as insufficient supplemental feeding, recurrent illnesses, and heightened nutritional requirements. These findings underscore the necessity for targeted nutritional monitoring and intervention measures during early life(5).

The statistically substantial correlation between risk categories and the necessity for intervention highlights the predictive usefulness of the IAP stratification model. Children categorised as moderate or high risk exhibited a greater likelihood of necessitating nutritional or medical intervention, indicating that the model can proficiently inform clinical decision-making(6). Identifying children in the moderate-risk category is crucial as it allows for early preventative interventions that may prevent or reverse the advancement to severe malnutrition(7).

The study results endorse the incorporation of IAP proactive assessment standards into standard paediatric practice, especially within primary and secondary healthcare environments. This integration could facilitate early detection, optimise intervention tactics, and ultimately optimise child health outcomes. This study possesses specific limitations. The retrospective approach may be prone to inadequate or biased data, and the conclusions are derived from a single-centre experience, thereby restricting generalizability. Future multicentre, prospective research is advised to corroborate these findings and enhance the evidence basis(8).

CONCLUSION

The Indian Academy of Paediatrics (IAP) malnutrition proactive assessment is an excellent technique for the early identification of children at nutritional risk. Systematic evaluation of anthropometric measures, nutritional intake, and clinical signs facilitates the prompt identification of potential severe malnutrition. This preliminary risk identification enables healthcare providers to execute focused, need-based interventions, including nutritional counselling, supplementation, and medical management.

The structured risk classification method prioritises care, ensuring that high-risk children receive immediate attention while moderate-risk cases are managed proactively to avert deterioration. This enhances paediatric nutritional outcomes, resulting in improved growth, strengthened immunity, and less morbidity. Deploying this strategy at the primary healthcare level can enhance community-based screening, facilitate early intervention, and markedly diminish the total incidence of childhood malnutrition, particularly in resource-constrained environments.

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