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Research Article

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Dietary Habits and Nutritional Status among Preschool Children: An Observational Study at Bagalkot

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ABSTRACT

Background: Knowing what eating habits are associated with a child's development can lead to better long-term health outcomes and improve dietary design interventions. We aimed to identify eating habits associated with the nutritional status of children between 3-6 years living in Chilapur Village of Bagalkot District.

Methods: Dietary habits of preschool children were assessed with the aid of a structured score scale in an interview of mothers and fathers of preschool children. Anthropometric measurements like weight, height and mid-arm circumference have been taken to decide the nutritional status of preschool kids with help of Z rating received via WHO Anthro software.

Results: Findings of the study reveals that 68% of preschool children had moderate dietary habits and 28% of them had poor eating habits and 4% of them had good eating habits. Nutritional Status assessed through anthropometric measurements shows that 39% of preschool children had moderate nutritional status according to their weight for age (≤-2 to +2 Score), 51% of preschool children had moderate nutritional status according to their height for age (≤-2 to +2 Score), and 48% of pre-school children had moderate nutritional status according to their Weight for height (≤-2 to +2 z score). A significant association was found between Dietary habits and Weight for age (χ^2= *8.69, p<0.05*), Weight for height (χ^2= *9.12, p<0.05*). A significant association was found between dietary habits and Family monthly income (χ^2= *10.58, p<0.05*).

Conclusion: Nutritional status of children aged between 3–6 years is of great health concern in India. A better nutritional diversity and meals variety and dietary styles characterized by intake of protein and calorie-rich diet seem beneficial for the growth of younger kids.

Key-words: Chronic respiratory diseases, Cardiovascular diseases, Dietary Habits, Nutritional Status, Preschool Children

INTRODUCTION

Food provides nutrients and gives energy. Nutrients are essential for human health, but also other compounds continue to be identified in foods, and their health properties are becoming better understood [1]. The correlation between nutrients, foods and dietary patterns has important implications, especially for the prevention and development of chronic diseases, such as cardiovascular diseases (like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes [2]. Food preferences continue changing throughout life, under the influence of biological, social, and environmental factors [3]; these preferences are key determinants of food choices, and therefore diet quality [4,5].

Dietary habits are shaped at a young age and maintained during later life with tracking over time [6]. Eating behaviours established in childhood persist, with implications such as fussiness and poor dietary variety, or high responsiveness to food cues and increased obesity risk. Although eating behaviours and child weight are difficult to modify directly, parental feeding practices are potentially a good target for interventions to prevent unhealthy eating patterns and the development of

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excess weight in children [7]. Hence anthropometric measurements should be used to assess the nutritional status of preschool children, according to the Centers for Disease Control and Prevention (CDC), anthropometry provides a valuable assessment of nutritional status in children and adults [8]. The Government of India has accepted the use of WHO standards for the assessment of nutritional status in preschool children. Several investigators have explored the implications of the use of WHO growth standards for the assessment of under-nutrition *vis-a-vis* other standards, which were widely used earlier in health services/surveys and the Integrated Child Development Services Programme [9-15].

MATERIALS AND METHODS

Source of data- In the present study data was collected from mothers of preschool children and preschool children in Chilapur Village of Bagalkot District.

Research design- Descriptive observational survey design was used for this study.

Setting- The study is conducted at Chilapur Village of Bagalkot District.

Population- Population includes preschool children and their mothers.

Method of data collection- Structured rating scale was used to assess the dietary habits and nutritional status was assessed by measuring anthropometric parameters like height, weight.

Sample size and Technique- The study included a convenient sample of 100 preschool children and their mothers.

Inclusion criteria for sampling

- Children in the age group of 3-6 years
- Children of parents willing to provide information

Exclusion criteria for sampling

- Preschool children who are sick at the time of data collection

Statistical Analysis- Data analyses were performed using SPSS v25. Descriptive univariate statistics such as frequencies and percentages were used for the description of socio-demographic variables and categorization of dietary habits and nutritional status of children. Chi-square test was used to find the association between the dietary habits and nutritional status of preschool children.

Ethical Consideration- This study was approved by the Institutional Ethical Clearance Committee, BVVS Sajjalashree Institute of Nursing Sciences, Bagalkot.

RESULTS

Description of socio-demographic characteristics of sample- Percentage-wise distribution of subjects according to age reveals that more (42%) of preschool children were belonging to 5-6 years of age. 51 % of the preschool children were Males and Females were 48%. The majority (78%) of preschool children were Hindu. The majority (46%) of the preschool children had 1-2 Siblings. 23% of preschool children's fathers had primary education. The majority of (44%) mothers of preschool children were illiterate. Most (48%) of fathers of preschool children were Cooli. The majority (83%) of Mothers of preschool children were housewives. The majority (68%) of the preschool was belonging to nuclear families. 46% of preschool children's families had an income of 20,001 and above.

Assessment of dietary habits of preschool children- Findings related to the assessment of dietary habits of preschool children reveals that the majority (68%) of preschool children had moderate dietary habits and 28% of them had poor dietary habits and 4% of preschool children had good dietary habits (Table 1).

Table 1: Levels of dietary habits of preschool children (N=100)

Levels of dietary habits	Range of score	No. of respondents	Percentage (%)
Poor	0-60	28	28
Moderate	61-90	68	68
Good	91-115	4	4

Assessment of the nutritional status of preschool children through anthropometric measurements- The results related to the assessment of the nutritional status of preschool children according to their weight for age shows that almost the same percentage of preschool children fell under normal (38%) and moderate (39%) nutritional status according to their weight for age (≤-2

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to +2 Z Score) (Table 2).

Table 2: Nutritional status of preschool children according to Z score of Weight for Age (N=100)

S.No.	Levels of nutritional status	No. of respondents	Percentage (%)
1.	Above normal (≥+2 Z Score)	02	2
2.	Normal (≤-2 to +2 Z Score)	38	38
3.	Moderate (-2 to -3 Z Score)	39	39
4.	Severe (>-3 Z Score)	21	21

The findings related to the assessment of the nutritional status of preschool children according to Height for age depicts that, nearly half (51%) of the preschool children had moderate nutritional status according to their height for age (≤-2 to +2 Z score (Table 3). Nearly half of them (48%) of preschool children had moderate nutritional status according to their Weight for height (≤-2 to +2 Z score) (Table 4).

Table 3: Nutritional status of preschool children according to Z score of Height for Age (N=100)

S. No	Level of Nutritional status	No. of response	Percentage (%)
1.	Above normal (≥+2 Z Score)	00	0
2.	Normal (≤-2 to +2 Z Score)	36	36
3.	Moderate (-2 to -3 Z Score)	51	51
4.	Severe (>-3 Z Score)	13	13

Table 4: Nutritional status of preschool children according to Z score of Weight for Height (N=100)

S.No	Level of nutritional status	No. of respondents	Percentage (%)
1.	Above normal (≥+2 Z score)	0	0
2.	Normal (≤-2 to +2 Z score)	39	39
3.	Moderate (-2 to -3 Z score)	48	48
4.	Severe (>-3 Z score)	13	13

Association between dietary habits and nutritional status- The findings related to the association between dietary habits & nutritional status of preschool children shows that there was a significant association between dietary habits weight for age, and weight for height (Table 5).

Table 5: Association between dietary habits and nutritional status (N=100)

S.No.	Nutritional status	Degree of freedom	Chi-square value
1.	Weight for age	2	8.69*
2.	Height for age	2	2.3
3.	Weight for height	1	9.12*

p<0.05

Association between the dietary habits and their selected socio-demographic variables of preschool children- The findings related to the association between dietary habits and socio-demographic variables of preschool children shows that there was a significant association between dietary habits and family monthly income (Table 6).

Table 6: Association between the dietary habits and their selected socio-demographic variables of preschool children (N=100)

S. No	Socio-demographic variables	DF	Chi-square value
1.	Age	1	2.38
2.	Sex	2	2.59
3.	Religion	2	0.21
4.	No. of siblings	1	3.21
5.	Father education	2	7.9
6.	Mother education	3	5.47
7.	Father occupation	2	6.03
8.	Mother occupation	1	0.06
9.	Type of family	1	0.52
10.	Family Monthly Income	3	10.58*

**p<0.05; DF= Degree of freedom*

DISCUSSION

This was a descriptive observation survey conducted to assess the dietary habits and nutritional status of Preschool Children at Bagalkot. The study included a

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convenient sample of 100 preschool children and their parents. In the present study, more number (42%) of preschool children as belonging to 5-6 years of age. Similar findings were found in the study conducted by Kostecka [16] to assess the eating habits of preschool children and found that majority of the children were in the age group of 5-6 years.

Concerning gender, in the present study, 51 % of the preschool children were Males and Females were 48%. Similar findings were found in the study conducted by Singh *et al.* [17] to assess the nutritional status of under-five children in Western Rajasthan and found, 58 per cent of the children were males. In the present study, the majority (78%) of preschool children was Hindu, (46%) of the preschool children had 1-2 siblings. 23% of preschool children's fathers had primary education. The majority of (44%) mothers of preschool children were illiterate. Similar findings were found in the study conducted by Rehan *et al.* [18] to assess under nutrition and its socio-demographic correlates in under-five children in urban and rural areas of Rishikesh.

The findings of the study showed that the majority (68%) of preschool children had moderate dietary habits. The findings of the present study are supported by the study conducted by Sun *et al.* [19] to assess the eating habits and their association with Weight Status in Chinese School-Age Children. The findings show that the eating habits of school-age children are closely related to their weight status. Poor eating habits can be risk factors for weight loss/overweight and obesity.

The study found that almost the same percentage of preschool children fell under normal (38%) and moderate (39%) nutritional status according to their weight for age (≤-2 to +2 Z Score). Nearly half (51%) of the preschool children had moderate nutritional status according to their height for age (≤-2 to +2 Z score. Similarly, nearly half of them (48%) pre-school children had moderate nutritional status according to their Weight for height (≤-2 to +2 Z score).

The findings of the present study are supported by the study conducted by Sk *et al.* [20] to know the level of nutritional status and to study this by various disaggregate levels, as well as to examine the risk factors of stunting among pre-school children aged 36-59 months in Malda, India. The results showed that the prevalence of stunting in the study area is 40% among children aged 36–59 months, which is a very high prevalence as per the WHO's cut-off values (≥40%) for public health significance.

Concerning the association between dietary habits and nutritional status of preschool children and found that, there was a significant association between dietary habits weight for age and weight for height. There was s significant association between dietary habits and family monthly income. The findings of the present study are supported by the study conducted by Coello *et al*. [21] to assess the Relation between food habits and nutritional status of preschool children in a rural community and found that, a good relationship between food habits and good nutritional status of the children was found. Secondly, mothers with well-nourished children had better food habits and better socioeconomic status than mothers having children with poor health status, and therefore, of a lower socioeconomic status.

In the present study, it was found that there was a significant association between dietary habits and family monthly income. Similar findings were found in the study conducted by Mohd *et al*. [21], where low socioeconomic status, as indicated by low household income, could limit access to adequate diets, particularly for older children.

CONCLUSIONS

This study found that the majority of preschool children had moderate and poor dietary habits and dietary habits are significantly associated with weight for age and weight for height.

Hence, all efforts should be made to improve the dietary habits of children so that their nutritional status could be improved.

CONTRIBUTION OF AUTHORS

Research concept- G. G. Chilapur, Deelip S. Natekar

Research design- G. G. Chilapur, Deelip S. Natekar

Supervision- Deelip S. Natekar

Materials & Data collection - Gundurao G. Chilapur

Data analysis and Interpretation- Gundurao G. Chilapur, Deelip S. Natekar

Literature search- Gundurao G. Chilapur

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Critical review- Deelip S. Natekar

Article editing- Gundurao G. Chilapur, Deelip S. Natekar

Final approval- Deelip S. Natekar

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