Research Article

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Assessment of nutritional status in pre-school children in Teetardi village near Geetanjali hospital, Udaipur (Rajasthan)

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ABSTRACT

Background: The pre-school age group (2-5 years) was evaluated for nutritional status at Teetardi village near Geetanjali hospital Udaipur. Objectives: To study the nutritional status in pre-school children.

Methods: Cross sectional study carried out during February 2014 to June 2014 with 300 children at Teetardi village near Geetanjali hospital Udaipur. Body weight, height recorded with age, gender and also interviewing the mother.

Results: The age and sex distribution of 300 children in present study was 52% males and 48% females. The nutritional status in the children was determined as per World Health Organization child growth standards. Result reveals that out of total male children 4.5% were severely stunted and out of total female children 4.2% were severely stunted. Out of total 10.3% of male children and 11.1% of female children were found stunted. Whereas out of total children 3.2% of male children and 4.9% of female children were severely wasted. Out of total children 10.9% of male children and 12.5% of female children were found wasted. Also 7.1% of male children and 5.5% of female children were overweight also found that 1.9% of male children and 0.7% of female children are obese.

Conclusions: There is necessity of more education in reference to nutrition and dietary habits including proper antenatal care and postnatal care of mother to reduce the prevalence of nutrition related abnormalities in children.

Keywords: Nutrition, Pre-school, Children nutritional status

INTRODUCTION

The Geetanjali hospital is a tertiary level hospital associated with Geetanjali medical college, Udaipur (Rajasthan). It covers urban and rural population of Udaipur. It is mostly surrounded by villages, which are mostly inhabited by tribal population. Teetardi is small village located in Girwa Tehsil of Udaipur district, near Geetanjali hospital with total 1407 families residing. The Teetardi village has population of 6962 of which children with age 0-6 is 930 which makes up 13.36 % of total population of village as per population census 2011. The study had been carried out at Teetardi village includes preschool age group children of 2 to 5 years. In India more than 10.7% of population lies in zone of preschool

age.² Nutritional abnormalities in early childhood leads to grievous consequences since it affects the motor, sensory also the cognitive, social and emotional behaviour and development. These children are tends to decrease performance in school and in society and also at edge of disease and early death. In India the children less than 5 years mortality rates contributing about 22% of total mortality in the same age group of the World.³ India, around 46% of all children less than the age of 3 are too small for their age and similarly 47% are underweight and about 16% are found in wasted category. Nutritional abnormalities limit the development of the child and decrease the capacity to learn in some cases they may costs lives. A survey states that about 50 per cent of all child deaths are attributed to nutritional abnormalities.

Nutritional abnormalities are more common in India even than in Sub-Saharan African countries. A report of UNICEF says that one in every three malnourished children in the world lives in India.⁴

Nutritional abnormalities in children is not solely affected by food intake, it is affected also by access to health services with support and quality of antenatal care and postnatal care for the children and pregnant mothers as well as good hygiene habits. In the Indian scenario girl children were at more risk of nutrition related abnormalities than boys because of their social reasons and stigma but present days this scenario is rapidly changing due to literacy and Women empowerment and better medical services.⁵

METHODS

The present cross sectional study had been carried out between February 2014 to June 2014 at Geetanjali hospital, Udaipur. A randomly selected total of 300 children of two to five year age group selected from Teetardi village near Geetanjali hospital Udaipur. This study was done with help of consent of the parents or guardians of the child. Children who presented with congenital diseases, metabolic diseases and chronic diseases that influence their growth were excluded from the study. Anthropometric measurements were done for the height and weight for the calculation of Height for age, Weight for age, Weight for height and results were tabulated by using Microsoft excel. Z score median values (+3, +2, +1, 0, -1, -2, -3) were evaluated by using simplified Z score tables provided by WHO growth standards charts.⁶ Height recorded to the nearest 0.1 cm and weight recorded to the nearest 0.1kg using standard techniques by electronic measures.⁷

RESULTS

In this present cross sectional study out of total children there were 156 (52%) male children and 144 (48%) female children. Out of 300 children 87 (29.0%) were between age two to three year, 106 (35.3%) were between age three to four and 107 (35.7%) were between age group four to five year (Table 1). In these children anthropometric data were obtained and by the application of Z score tables it was found that out of 156 male children 16 (10.3%) were stunted and 07 (4.5%) were severely stunted similarly 17 (10.9%) were underweight and 05 (3.2%) were severely underweight similarly 18 (11.5%) were wasted and 06 (3.8%) were severely wasted and in last section 11 (7.1%) were overweight and 03 (1.9%) were obese (Table 2).

Accordingly it was found that out of 144 girl children 16 (11.1%) were stunted and 06 (4.2%) were severely stunted similarly 18 (12.5%) were underweight and 07 (4.9%) were severely underweight similarly 17 (11.8%) were wasted and 06 (4.2%) were severely wasted and in last section 08 (5.5%) were overweight and 01 (0.7%)

were obese (Table 3). On the application of chi square test by SPSS the observed difference in nutritional status of the children on the basis of mothers occupation were found to be statistically significant but only in case the of stunting (P < 0.05).

Table 1: Distribution of the children according to their gender and age.

Age (years)	Male (%)	Female (%)	Total (%)
2-3	45 (28.8)	42 (29.2)	87 (29.0)
3-4	57 (36.5)	49 (34.1)	106 (35.3)
4-5	54 (34.6)	53 (36.8)	107 (35.7)
Total	156 (100)	144 (100)	300 (100)

Table 2: Distribution of nutritional indicators in male children.

Nutritional level in No. of children	Height for age (%)	Weight for age (%)	Weight for height (%)
No. below -3 s	07 (4.5)	05 (3.2)	06 (3.8)
No. below -2 s	16 (10.3)	17 (10.9)	18 (11.5)
No. below -1 s	29 (18.6)	32 (20.5)	23 (14.7)
No. between +1 & -1 s	72 (46.1)	76 (48.7)	70 (44.9)
No. above +1 s	23 (14.7)	18 (11.5)	25 (16.1)
No. above +2 s	07 (4.5)	07 (4.5)	11 (7.1)
No. above +3 s	02 (1.3)	01 (0.6)	03 (1.9)
Total	156 (100)	156 (100)	156 (100)

s = Standard deviation

Table 3: Distribution of nutritional indicators in female children.

Nutritional level in No. of children	Height for age (%)	Weight for age (%)	Weight for height (%)
No. below -3 s	06 (4.2)	07 (4.9)	06 (4.2)
No. below -2 s	16 (11.1)	18 (12.5)	17 (11.8)
No. below -1 s	24 (16.7)	22 (15.3)	20 (13.9)
No. between +1 & -1 s	71 (49.3)	69 (47.9)	68 (47.2)
No. above +1 s	19 (13.2)	17 (11.8)	24 (16.7)
No. above +2 s	05 (3.8)	08 (5.5)	08 (5.5)
No. above +3 s	03 (2.1)	03 (2.1)	01 (0.7)
Total	144 (100)	144 (100)	144 (100)

s = Standard deviation

DISCUSSION

This present study was at tribal area in Udaipur. This study provides the snapshot of the prevalent nutrition related abnormalities in preschool age children in rural population of Udaipur. Nutritional abnormalities levels are higher in Rajasthan, as per National family health

survey-3 (2005-06) the prevalence of the stunting and wasting among the less than 3 year of age children is 33.7% and 19.7% (for rural this is 36.4% and 19.9%). A similar previous study by M. S. Tripathi and V. Sharma, done at slum population of Udaipur in pre-school age children found that 42% children were stunted and 30% were found wasted and 66% were found to be underweight. An article on nutrition country profile states that nutritional abnormalities varies in different states from 13%-55% from Meghalaya to Madhya Pradesh accordingly. In reference to these studies, overall stunting in our study found to be 15.0% but the proportion of wasted children in present study (15.7%) almost near to the findings of the findings of NFHS-3.

Nutritional deficiency is prone to be seen more in children of rural and low socio-economic status families but now changing scenario of economic development or even the adequacies of food at household levels are now not the only parameters for a stable and satisfactory for minimising the nutritional abnormalities, which also improved by mother's education. A previous study on preschool children by A. Mittal states that on the basis of the employment of mothers it was found that children of employed mother's 58.97% were stunted and 46.15% were underweight while children of housewife mother's 44.8% were stunted and 37.8% were underweight. 11 The present study provide a glimpse of nutritional indicators in pre-school age children, more elaborative and procreative studies needed to get more clear picture of the nutritional status of children of communities.

CONCLUSION

The present study is provides a brief glimpse of nutritional abnormalities in pre-school age children. It was indicates that there is need of more elaborative education and medical care about nutrition and dietary habits to population including proper antenatal care and postnatal care of mother and child to reduce the prevalence of nutrition related diseases in children along with proper counselling of parents by administrative, doctors and health care workers.

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Ethical approval: The study was approved by the

institutional ethics committee

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