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Medicine

ASSESSMENT OF NUTRITIONAL STATUS IN CHILDREN LESS THAN 10 YEARS IN URBAN AREA OF WARDHA DISTRICT

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ABSTRACT **Background:** Developing countries like India with significant populous suffer the burden of malnourishment especially prevalent amongst children. Medical organizations and the government alike are trying to mitigate the problem of undernourishment that rages across the country. This research is concerned with assessing the nutritional status of thechildren in an urban areas, thereby estimating the progress made in these areas.
Aim: To evaluate the nutritional status of children below 10 years in Wardha district**.**
Method: A cross-sectional study involving 50 children below 10 years visiting the Urban Health Centre, Wardha. A predesigned questionnaire was used for assessment.
Results: According to our study , 15.4% of total female children were underweight and 84.6% were having normal body mass index as compared to 37.5% of male children were underweight and 62.5% were having normal body mass index.

KEYWORDS : Nutritional status, Urban Health Center, Children, Undernourishment

INTRODUCTION:

Nutrition maybe defined as the signs of food and its relationship to health. It is concerned mainly with the part played by nutrients in body growth, development and maintenance.[1]

Knowledge of a nutritional status of a community is necessary to have an idea about the developmental process, as malnutrition is one of the major health problems in the developing countries. Poverty, poor hygienic conditions and minimum access to preventive healthcare where reported to be the basic causes of malnutrition in developing countries [2] Inadequate nutritional intake or malnutrition can be considered a major source of adverse effects on the growth and development of an individual.

Each year approximately 2.3 million deaths in developing countries among 6-60 months aged children in developing countries are associated with malnutrition, which is about 41% of the total deaths in this age group.[3] West Bengal study found that there was significant rural urban as well gender differences of Indian preschool children.[4] Other factors which may be responsible are poor environmental condition, large family size, poor maternal health, premature termination of breast feeding and other cultural feeding practices.[5] Maternal factors such as age, weight and anemia also significantly affect child's nutritional status.[6]

Children of today are citizens of tomorrow, hence it is extremely important to ensure proper healthcare facilities as well adequate nutritional intake for children. Early childhood constitute the most crucial period where the foundation is laid for cognitive, social, emotional and physical development. Normal growth requires optimal nutrition.

Growth studies have demonstrated that malnutrition causes serious impairment of growth. Majority of malnourished children fail to achieve full genetic potential of body growth and is stunted or wasted or both. Low BMI is the indicator of energy deficit, early detection of low body mass index (BMI) for age and its correction is likely to be the most effective intervention for preventing stunting. Thus use of body mass index (BMI) for assessment of nutritional status in Indian children is essential.[7]

Internationally 52 million children under 5 years of age are wasted, 17 million are severely wasted and 155 million are stunted (WHO 2018). Around 45% of deaths are linked to undernutrition among children under 5 years of age.[8]

Studies on growth and development of children provide information on the nutritional monitoring of child growth which is very important for a vast multiethnic and multicultural country like India, where growth and nutritional status of children vary from region to region and state to state.

AIMS AND OBJECTIVES:

AIM: To evaluate the nutritional status of children below 10 years living in urban area of Wardha district.

OBJECTIVES:- To evaluate the nutritional status of children below 10 years living in urban area of Wardha district.

METHODOLOGY:

Study Setting: Urban Health Training Center
Study design: Cross-Sectional Study
Sample Size: All the children under 10 years age visiting the Urban Health Centre
Duration of study: October 2019 to December 2019
Study Participants: Patients visiting the Urban Health Centre
Inclusion criteria: Children below 10 years
Exclusion criteria: Patients not willing to participate in study.
Data Collection: A survey was done among the children below 10 years visiting the Urban Health Centre. A predesigned closed ended questionnaire was used for assessment. The purpose of the study was explained to them and confidentiality of the information was assured.
Study Analysis: Analysis was done using MS Excel and descriptive statistics were used.

OBSERVATION AND RESULTS:

Table 1: Distribution of children according to age

Age group (in years)	Frequency	Percentage
<3	6	12.0
3-7	28	56.0
>7	16	32.0
Total	50	100.0

Age wise distribution of children shows that maximum 52% children were of the age group of 3-7 years, 32% were of the age group 7-10 years and 12% children belong to age group 0-3 years.

Table 2: Association of AGE and Body Mass Index (BMI)					
		Age in years	3-7	>7	Total
Body Mass Index (BMI) (weight in kg /height in m^2)	<18.5	Underweight	8	3	13
			28.6%	18.8%	26.0%
	18.5–24.9	Normal	20	13	37
			71.4%	81.2%	74.0%
	25.0–29.9	Overweight	0	0	0
Total			28	16	50
			100.0%	100.0%	100.0%

Out of the total children , 33.3% were underweight and 66.7% were having normal Body Mass Index (BMI) in the age group 0-3 years, and 28.6% were underweight and 71.4% were having normal Body Mass Index (BMI) in the age group 3-7 years, and 18.8% were underweight and 81.2% were having normal Body Mass Index (BMI) in the age group 7-10 years.

Table 3: Association of SEX and Body Mass Index (BMI)					
			Female	Male	total
Body Mass Index (BMI) (weight in kg /height in m^2)	<18.5	Underweight	4	9	13
			15.4%	37.5%	26.0%
	18.5–24.9	Normal	22	15	37
			84.6%	62.5%	74.0%
	25.0–29.9	Overweight	0	0	0
Total			26	24	50
			100.0%	100.0%	100.0%

Out of the total female children, 15.4% were underweight and 84.6% was of normal Body Mass Index (BMI) as compared to the male children where 37.5% were underweight and 62.5% was of normal Body Mass Index (BMI).

DISCUSSION:

The present study reported very high rates of underweight, among the urban children. According to the WHO, the severity of under-nutrition was high indicating a critical situation. These results implied that the children were under critical nutritional stress. Most studies worldwide have also reported high to very high rates of under-nutrition among urban children. A study in Mumbai during march to November 2017 with a sample size of 323 were screened and it was found that 25.1% of children were underweight.[9]

The prevalence of underweight, weight for age (percentage of children under 5) in India was 35.7% as of 2015. Its highest value over the last 26 years was 55.5% in 1989 while its lowest value was 29. 5% in 2014. Malnutrition caused 69% of deaths of children below the age of five in India according to UNICEF in 2019. The condition of the children worldwide in 2019, UNICEF said that every second child in under 3 years age group is affected by some form of malnutrition.[9]

In this study, age wise distribution of patients shows that maximum 42% of children were in the age group of 3-7 years , 21% were in the age group of 0-3 years, 32 were in the age group of 7-10 years.

Sex wise distribution of children shows that maximum i.e 52% were females as compared to 48% males, which means female outnumbered males in our study.

Also according to this study conducted in the urban area of Wardha district, out of the total female children, 15.4% were underweight and 84.6% was of normal body mass index (BMI) as compared to the male children where 37.5% were underweight and 62.5% was of normal body mass index (BMI).

The reasoning behind these values could be because of the small sample size of the study, another could be, it was conducted in a single urban area namely, Wardha.

The body mass index (BMI) calculated of the participants in this study showed out of the total children, 33.3% were underweight and 66.7% were having normal body mass index (BMI) in the age group 0-3 years, and 28.6% were underweight and 71.4% were having normal body mass index (BMI) in the age group 3-7 years, and 18.8% were underweight and 81.2% were having normal body mass index (BMI) in the age group 7-10 years.

This suggests that majority of the children living in the urban area has a normal diet.

CONCLUSION:

Malnutrition is a barrier to development and its presence indicates that the basic physiological needs have not been met. What is observed as malnutrition, is not only the result of insufficient or inappropriate food, but also a consequence of other conditions, such as high prevalence of disease and poor water supply and sanitation . The results of this study indicates that in the urban area of Wardha majority of the children fall under the umbrella of normal BMI. This suggest that the various educational programs arranged in the urban area have benefited the children. Educational camps are also conducted in Urban Health Centers promoting healthy diet practices. Continued efforts from the government can tackle the problem of malnutrition plaguing our country.

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