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To economic the effect of socio demographic factor in nutritional study of school going children's

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Abstract

Though the economic growth of Hosangabad is increasing day by day, malnutrition remains one of the leading causes of child mortality and morbidity. The school age is the dynamic period of growth and development. The aim of this study is to assess the nutritional status and dietary pattern of primary school children in Hosangabad and identify the risk factors of nutrition situation. This was a cross-sectional study conducted among 210 children aged 5 to 11 years at seven different primary schools. The sample was selected by multistage sampling from four than as of Hosangabad. The majority (47.6%) of the participants came from low-income families, but about 41% and 44% spent high and moderate amount of money on foods, consequently. About 21.7% and 9.7% of the respondents were moderately underweight and overweight, respectively as indicated by Weight for age z-score (WAZ). In case of Height for age z-score (HAZ), 24.3% of the respondents were moderately stunting. The prevalence of thinness, overweight and obese among the participants were 22%, 11.9%, and 4.8%, respectively, as measured by BMI for age z-score (BAZ). The well-nourished children showed better school performance than the malnourished one. Significant association was found among food consumption score (FCS), individual dietary diversity score (IDDS), and anthropometric indices among the respondents. As malnutrition is prevalent among primary school children, so school health program with proper screening and better nutrition education should be recommended as early as possible.

Keywords: Nutritional Status, school age children, dietary intake, socio-economic factor

Introduction

Malnutrition continues to be a primary cause of ill health and mortality among children in developing countries. It is a major public health problem and accounts for about half of all child deaths worldwide. About 150 million children in developing countries are still malnourished and more than half of underweight children live in Madhya Pradesh. The best global indicator of children's well-being is growth. Poor grow is attributable to a range of factors closely linked to overall standards of living and the ability of populations to meet their basic needs, such as access to food, housing and health care. Assessment of growth is the single measurement that best defines the nutritional and health status of children, and provides an indirect measurement of the quality of life of the entire population. Malnutrition studies use the assessment of the nutritional status of children 5 years old and younger as representative of the nutritional wellbeing of an entire population because this age group suffers the effects of malnutrition more severely. While the prevalence of malnutrition in the under 5 age group is important, in 2002 the UN's Standing Committee on Nutrition began to promote research and interventions into the malnutrition of school age children, because of this age groups potential to experience "catch up" growth, for example, school-age children who were underweight early in life can grow to have a normal weight for age if their nutritional environment improves. Malnutrition is one of the important public health problems, affects large numbers of children in developing countries. Despite the economic growth observed in developing countries, malnutrition and particularly under-nutrition is still highly prevalent. School age is a dynamic period of physical growth as well as of mental development of the child. The nutritional status of school-aged children impacts their health, cognition, and subsequently their educational achievement. The school is an opportune setting to provide health and nutrition services to disadvantaged children. Children in the age group of 5-14 years are often considered as school age.

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Since 2000 the United Nations Educational Scientific and Cultural Organization (UNESCO) consider 6-11 years as primary school age and 12-17 years as secondary school age for statistical purposes. The foundation of good health and sound mind are laid during the school age period. Primary school children undergo a period of rapid growth, nutrient deficiencies at this age can lead to retarded growth, anaemia, reduced immune function, and impaired motor and cognitive development, all of which may adversely affect academic performance through reduced learning capacity and poor school. In the developing countries. The purpose of this study is to design a community health assessment.

Methods and Materials

Study design and sampling the study was carried out using a cross-sectional design. Two hundred ten primary school children, aged from 5 to 11 years, who were the students of classes I to class V of seven primary schools in the Hosangabad, Madhya Pradesh were selected for this study by using the following formula $n = Z^2 P(1 - P) / d^2 \times \text{Design effect}$ Since, we didn't have any correct estimate of proportion of malnutrition among the study population, we average, Madhya Pradesh national malnutrition data from WHO, and estimate $P=0.27$ and we assume that $d= 0.07$ and 15% drop rate was included. Samples were collected using multistage sampling. Four than as in the Hosangabad area were included. One government and one non-government school from each thane was selected by systematic sampling. A total of 30 primary school children were selected by systematic random sampling from each school. If there were more than one section in each class, the samples were selected from both sections. In case of refusal to participate by a selected subject, the next name on the attendance register was invited to participate, keeping subsequent samples unchanged. Consents from School Authority and Parents the purpose of study was explained to the authority of each selected school and permission to carry out the work in their students was sought for. Some of the school administrations consented readily and some were not given permission to conduct the study in the school. Then we moved to next school for consent. Each selected students' parents were sincerely requested to participate give consent to include his or her child in the study. Data Collection the schools were visited for data collection on prefixed dates. The school administration and the students were informed the dates well advance of the visit. Socio Economic Information The part of the questionnaire that was designed to obtain socio-economic information was asked to parents of the selected students. Anthropometric Data Anthropometric data were recorded on the day of collection of dietary information. Body Weight Body weight was measured on a weight balance. The balance was calibrated every day before use. Body weight was measured bare footed to the nearest 0.1 kg with school uniform on. The average weight (0.5 kg) of the school uniform was later subtracted from the measured weight. Height Barefooted standing height was measured to the nearest 0.1 cm with a standard scale. Weight for age Z-score height for Z-score and BMI for age Z-score refusal to participate by a selected subject, the next name on the attendance register was invited to participate, keeping subsequent samples unchanged. Consents from School Authority and Parents the purpose of study was explained to the authority of each selected school and permission to carry out the work in their students was sought for. Some of the school administrations consented readily and some were not

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Body Weight

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Height

Barefooted standing height was measured to the nearest 0.1 cm with a standard scale. Weight for age Z-score height for Z-score and BMI for age Z-score of the participants were calculated and compared with the World Health Organization. School Performance Factors considered to measure school performance of the participants like attendance rate, marks attained in the last exam, participation in co-curriculum activity and participation in sports were asked the teacher to fill up in the questionnaire. Dietary Information Dietary information was collected by interviewing the parents of the participants. Food consumption score (FCS) was calculated based on the answer to recall the foods they consumed in the previous seven days. Individual dietary diversity score for participants was calculated based on the intake of 8 food groups proposed by FANTA(2016) to calculate children individual dietary diversity score (IDDs) and categorize it into low, middle and high IDDS to understand dietary diversity. Statistical Analysis Various analytical techniques were used employing SPSS/version 21 for the analysis of the data. Univariate analysis comprised of simple frequency distribution of selected variable. Mean, median, standard deviation, ranges for all parameters were determined. Bivariate analysis was performed to determine the significant differences between groups in various independent variables. Anthropometric data of the participants were analyzed by using WHO Anthro plus software.

Conclusions

The malnutrition of primary school going children became more prevalent in the present study; it is the high time for early detection and appropriate treatment of malnourished children in the elementary level. Otherwise it is not far when it will create immense burden for the nation. Moreover, further investigations are also needed to identify the risk factors of malnutrition among the primary school children.

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