Malnutrition among under-five children in India.

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Received: *06-Jan-2022, Manuscript No. AAJFNH-22-54847;* ***Editor assigned:*** *08-Jan-2022, PreQC No. AAJFNH-22-54847 (PQ);* ***Reviewed:*** *21-Jan-2022, QC No AAJFNH-22-54847;* ***Published:*** *28-Jan-2022, DOI:10.35841/aajfnh-5.1.103*

Abstract

Malnutrition among under-five children is an important concern for the health authorities in India. The aim of the present review was to assess the burden of under-nutrition and over-nutrition, its determinants and strategies required to tackle malnutrition among under-five children in India. Recent data were collected from Google search, Medline, and others. The information retrieved was reviewed and analyzed for discrepancies. Existing evidence shows that the prevalence of under-nutrition among under-five children was high and varied widely (under-weight: 39-75%, stunting: 15.4-74%, wasting: 10.6-42.3%) depending on the assessment methodology adopted. Studies on assessment of over-nutrition status among under-five children were limited. Distribution of various types of risk factors and its influence on nutrition status of children in a given set up should be analyzed for planning the control measures. Strengthening public health interventions for mild malnutrition cases and vulnerable groups, effective implementation and evaluation of the strategies at regional level, research on overweight, obesity and its etiological factors and steps for improving socioeconomic development are the prerequisites for tackling malnutrition among under-five children in India.

Keywords: Malnutrition, Strategies, Under-five children, India.

Introduction

Malnutrition among under-five children is a major public health problem in India. This is reflected by the fact that the prevalence of under-weight children in India is among the highest in the world, and is nearly doubles that of Sub-Saharan Africa. It is also observed that the malnutrition problem in India is a concentrated phenomenon that is, a relatively small number of states, districts, and villages account for a large share of the malnutrition burden only 5 states and 50% of villages account for about 80% of the malnutrition burden [1]. Each year approximately 2.3 million deaths 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. A recent study, among children aged between 3 months and 3 years of age conducted in 130 districts through Demographic and Health Surveys in 53 countries over a period from 1986 to 2006 found that variance in mild under-weight has a larger and more robust correlation with child mortality than the variance in severe under-weight. The study concluded that the prevalence of mild under-weight deserves greater attention as a useful signal of changing public health conditions among preschool children in developing countries. Therefore, it is important for the health system to detect malnutrition at an early stage for planning and implementing timely interventions at the community level.

Millennium Development Goal 1 (Target 2) aims to halve, between 1990 and 2015, the proportion of people who suffer from hunger as measured by the prevalence of under-weight among under-5 year's children. The burden of under-nutrition among under-five children has not changed much even though various intervention programs are in operation in India. Current changing dietary patterns are also affecting the nutrition status of under-five children resulting in increased prevalence of adult non-communicable diseases such as obesity, diabetes, hypertension and coronary heart disease [2]. The need of the hour is to examine the burden of under-nutrition and obesity, study it's determining factors and assess the effectiveness of the various approaches to combat malnutrition among under-five children. The present review article discusses the issues and strategies for strengthening service delivery to under-five malnourished children in India.

Determinants

Under-nutrition

There are various risk factors that showed an association with under-nutrition among under-five children. West Bengal studies found that significantly higher proportion of malnutrition among female children compared to the males were among the higher birth order and those belonging to

Citation: *Charles W. General health aspects in the prevention and control of vitamin deficiencies. J Food Nutr Health. 2022;6(1):103*

families with lower per capita income. It was found that there was a significant rural-urban as well as gender difference in growth and nutritional status of Indian preschool children. Furthermore, food consumption was found to be lower among girls compared to boys. Poor feeding practices was common during infancy with 46.4% of under-six month's aged children receiving exclusive breastfeeding and 56.7% of those aged 6-9 months receiving complementary food items [3]. The rates of exclusive breast feeding and complementary feeding were higher for mothers who had more antenatal visits and watched television. A study reported that 60% of the caregivers did not know regarding growth monitoring of child. Hence, the factors related to nutrition and growth monitoring affects the malnutrition status of children.

Over-nutrition

There is a paucity of data related to the prevalence and determinants of overweight and obesity among under-five children in India [4]. The highest prevalence of overweight among preschool children was found in Eastern Europe and the Middle East, whereas the same in India and Sri Lanka was the lowest. Although the prevalence is lower in Asia than in Africa (4.9% in 2010), the number of children (18 million) affected is higher in Asia. A study conducted in Ernakulum District of Kerala, among 5-16 years of age, highlighted that childhood obesity showed an increasing trend in a short period of 2 years from 2003 to 2005. A study among 4-12 years aged children showed that the mean total calorie intake of the children was not significantly high, but the calories derived from fats was more than the desired 25%, which was especially high in the 4-7 years age group. Lack of physical activity, watching television or video for more than one 1 h daily and a positive family history of obesity contributed significantly to child obesity. It is stressed that there might be possibility of emergence of obesity during the preschool period, which should be elucidated by further studies. Furthermore, there is a need to find out the regional variation and determinants of obesity among the under-fives [5].

Long-term

Factors associated with socioeconomic inequality such as poverty, illiteracy, lack of awareness regarding the quality of food items, large family and poor sanitary environment are associated with malnutrition. The malnutrition is found to be 2.7 times higher among families with lower household wealth index. Rapid population growth and political commitment have an indirect effect on malnutrition. Hence, socioeconomic development of the country with involvement of all the stakeholders concerned could result in reduction of malnutrition.

Conclusion

Prevalence of under-nutrition among under-five children is relatively high and varied widely depending on the assessment methodology adopted, and there are limited studies on assessment of over-nutrition. The distribution of risk factors and its influence on malnutrition among children in a given set up should be analyzed in planning diverse control measures. Strengthening public health interventions for mild malnutrition cases among the vulnerable groups with a focus on socioeconomic development and research on overweight, obesity and its etiological factors in the country are the prerequisites required to tackle malnutrition among under-five children in India.

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Citation: *Charles W. General health aspects in the prevention and control of vitamin deficiencies. J Food Nutr Health. 2022;6(1):103*