

REPORT ON MALNUTRITION AS AN EPIDEMIC IN PAKISTAN

Afifa Tanweer¹, Ghazala Pervez Zaman¹, Warda Fatima², Hasnain Javed²

¹. Department of Food and Nutrition, Government college of Home Economics, Lahore, Pakistan

². Department of Microbiology and Molecular Genetics, University of the Punjab, Lahore, Pakistan

Corresponding Author: Warda Fatima E. mail: warda.mmg@pu.edu.pk

ABSTRACT: *Malnutrition is a public health problem, with its consequences extending long beyond than is generally perceived. It can be recognized as one of the key obstacles in national development, owing to its influence on productive potentials of individuals. Malnutrition is certainly not affordable by any nation, lest its rates are worryingly high in a developing country like Pakistan. Malnutrition rests as a hidden crisis in the country and its rates have actually increased during the last decade. High prevalence of food insecurity, illiteracy, lack of nutritional knowledge, poor hygiene status, and under recognized role of nutrition are some of the possible causes. The situation of malnutrition in Pakistan necessitates an urgent need for addressing its causes through various nutrition interventions, in order to ensure a bright future for the coming generations.*

KEY WORDS: Malnutrition, undernourishment, national impediment, Pakistan

INTRODUCTION

Malnutrition, caused by inadequate, excess or imbalanced nutrition, is affecting large parts of world's population. It has serious prospective implications; extending from individuals to families, communities and even to the national and international levels. Malnutrition is known to compromise an individual's productivity, endanger the economy, and impede national development in the long run. High morbidity and mortality rates of malnourished people place immense challenges on investments in all development sectors of the society. [1] In the developing countries an estimated 2-3% of gross domestic product (GDP) is known to be lost to malnutrition [2].

During the past decade, Pakistan has had persistently high and certainly unaffordable rates of malnutrition [3]. The major objective of current article is to promote the role of nutritional status in performance and progress of individuals as well as the nations. It focuses on describing the situation of malnutrition in Pakistan, its consequences on national development, its causes and some suggestions for its control.

Malnutrition

Malnutrition is a condition caused by inadequacy, excess or imbalance of nutrients [1, 2] and ranges from under-nutrition to over-nutrition. It threatens the survival as well as the productivity of individuals affected by its either or both aspects [4].

Malnutrition has remained and still is a global health problem. Estimates of the period 2010-2012 show one eighth of the world's population to be undernourished, out of which 98% inhabit the developing countries [5], particularly the Asian region [6]. Globally, 16% of all children less than five years of age were estimated to be underweight in the year 2011, the highest prevalence being in South Asia. Data of the period 2010- 2012 showed that developing countries are home to a vast majority of chronically undernourished individuals [7]. Such countries, being unable to cater the demands of malnutrition, become further indebted in terms of economy and remain entrapped in this vicious cycle.

The incidence of nutritional deviation on the side of overweight and obesity illustrates no less grim picture. After obesity prevalence being doubled in 1980s, over weight and obese have even surpassed the number of undernourished worldwide [5]. This double burden of malnutrition explains

the need of integrated approach for handling its complex nature.

Malnutrition in Pakistan

Malnutrition is quite prevalent in Pakistan. In this low middle income [8] and fifth most populous country [9], nearly a quarter of population is unable to buy the nutritional requirements (2,350 calories per day) of an adult [10]. Malnutrition contributes to the high under five mortality rates (137 for 1000 births) [11] by causing about 35% of these deaths [10].

Being located in south Asian region, Pakistan is predisposed to high malnutrition prevalence. But the location alone is not a dependable factor. Several other factors are certainly more strongly related to current nutritional status of the population, some of which have been subsequently mentioned.

Analysis of malnutrition in Pakistan

The trends of major malnutrition indicators during the last decade have shown that the situation has worsened instead of improving. Surveys conducted on national level reveal generally poor nutritional status of Pakistani population.

Food insecurity in Pakistan

According to the United Nation's Food and Agriculture Organization (FAO) [5], "Food security is a state that exists when all people, at all times have physical, social and economic access to sufficient, safe and nutritious food that sufficiently meets their dietary needs and food preferences for an active and healthy life". In contrast, food insecurity is said to be existing when people lack such secure access due to unavailability of food, inappropriate distribution, inadequate purchasing power, or inadequate use of food at the household level. Being food insecure is one of the key contributors to poor nutritional status. [5]

Nationally, more than half (58%) of the Pakistani households were reported to be food insecure in the National Nutrition Survey (NNS) conducted in 2011. Food security situation showed further decline since 2007, when 51% of the population was food insecure. The findings of NNS 2011 imply that one in every ten Pakistani is food insecure with severe hunger [3] which, in addition to the painful hunger sensations, can or probably has already led to several social and economic problems for the society.

Micronutrient status

With the exception of iodine, the status of other important micronutrients encountered a significant decline during the last decade. As an evidence of massive promotion of iodized salt, severe iodine deficiency diminished from 23.4 % in 2001 to only 2.2% in 2011 [12]. On the other hand, iron deficiency anemia in mothers has almost doubled. Also women's vitamin A status became worse than before, with about seven fold increase in vitamin A deficient women. Slight increase regarding zinc deficiency has also been reported during the years 2001 and 2011 [3].

Child health indicators

The prevalence of stunting, wasting and underweight, the major indices of children's nutritional assessment [5], has been reported to increase in Pakistani children during the last decade. Regarding micronutrient status, 57% of children were reported to have moderate iron deficiency (hemoglobin levels 7 - 10.9 g/dl) in 2011 as compared to 47% in 2001. The number of Vitamin A deficient children have increased almost four times along with a slight increase in zinc deficiency between the years 2001 and 2011 [3]. Being malnourished during the early years has been studied to influence a person's future capabilities [13, 14], which means that adequate nourishment during developmentally critical life stages of infancy and childhood is necessary for human capital development. The high stunting, wasting and underweight trends in children shows a probability that a large proportion of future Pakistani generation will not be able to reach its full potential, in the absence of effective interventions. This implies that they may not be able to serve back the state and become as productive as they would have been if they were nutritionally healthy.

Overweight and obesity

Pakistan is facing a "double burden of disease" where under nutrition coexists with overweight and related chronic diseases [6]. 22% and 37% obesity rates have been found in rural Pakistani men and women respectively [15]. 41% Pakistani women were expected to become overweight by 2015 [16]. Being overweight is related to several comorbidities; cardiovascular disease, type 2 diabetes, certain cancers, osteoarthritis, and gall bladder disease [4], all of which seriously inflict on the quality of life.

Consequences of malnutrition

Malnutrition shares a vicious and continuous cycle with poverty, necessitating its realization as an escapable hurdle in national progress. Poor physical and cognitive status and increased economic burden of malnourished individuals constitute the major routes by which it contributes to national impediment [2]. Malnutrition has been linked to increased mortality [17, 18] morbidity [19] and mental impairments [1, 13, 20]. Malnutrition in early years can result in stunting, blindness, dwarfism, mental retardation, and neural tube defects—all severe handicaps in any society [2]. Impaired performance of malnourished people subsequently constraints the economic development [1]. About one-tenth of individual's lifetime earning is estimated to be lost to malnutrition [2]. A malnourished child is unable to ever become an efficient producer in adulthood and continues to drain the country's resources at a rate he/she is never able to

pay back. Owing to its long lasting and immense cost, reducing malnutrition should be one of the national priorities.

Suggestions to combat malnutrition in Pakistan

All the causes of malnutrition, including basic, underlying and immediate ones [21], need urgent solutions in Pakistan. Malnutrition is deep rooted in poverty and food insecurity. In Pakistan, almost 70% of income is spent on food [22] and more than half of the population is food insecure [3]. The United Nations' millennium development goal 1, which aimed at reducing poverty and hunger, has not been accomplished [23].

Natural disasters as well as man-made conflicts can hamper the nutritional status of population, mainly with the mediation of economic crisis. Flood disaster in Pakistan in the year 2010 was estimated to have caused a damage of US \$10 billion [10], evidently increasing the number of food insecure households in the aftermath of floods. Recently the drought condition in Tharparkar district of Sindh has led to several deaths [24]. Risk management of disasters rather than the long standing approach of emergency relief is recommended in order to avoid huge losses caused by them.

In addition to natural calamities, the recurrent political instability situations place great burden on Pakistani economy, as does the high rate of population growth in the already densely inhabited country. The multifactorial causes of poor economic condition necessitate an integrated approach for improving it.

Certain maternal, environmental, and sociocultural factors also need improvements. Poor maternal nutritional status can result in malnourished generation [25]. Interventions targeted towards birth spacing promotion, improving prenatal and antenatal health care services, nutritional counseling of women of child bearing age, and promotion of gender equality can result in reduced maternal and subsequently childhood malnutrition.

The literacy rate in Pakistan is far behind the MDG target of 88% (23). NNS 2011 reports significant correlations between children's nutritional and mother's literacy status. Malnutrition was found to be lower in children of educated mothers. Interventions are therefore, required to improve formal education in general and nutrition education in particular, especially for women. Basic nutrition education can be made a compulsory part of secondary and intermediate curriculum. Public awareness can also be promoted by availing the pivotal role of media campaigns. Awareness of healthy lifestyle, including exercise and eating patterns, must be promoted in order to check the rapidly increasing overweight trends.

NNS 2011 reported several poor practices and taboos, including a very low rate of exclusive breastfeeding, disposal of colostrum, and untimely and inadequate complementary feeding, suggesting a need of nutrition education programs especially designed for mothers. Besides, belief and practice of feeding less during childhood illnesses can also aggravate malnutrition. In Pakistan, providing rest to the intestines has been found to be commonly perceived solution to childhood diarrhea [26].

Nutritional status of children can be improved through practical community based nutrition interventions, including school feeding programs. Supplementation and fortification

programs can be of considerable help in alleviating micronutrient deficiencies. The current Vitamin A and iron status of population requires fortification of these nutrients in cheap and easily available food products. In addition, providing nutrition education to vulnerable groups can also help improve micronutrient status. Concurrently, there is a need of improved hygiene and sanitation conditions because repeated infections due to poor hygiene exacerbate the already poor nutritional status of malnourished individuals. Lastly, the nutrition and health surveys and reports require regular and more frequent publication; unlike the present lag of ten years between national nutrition surveys. Even small scale local studies can help in early identification of areas in need of improvement. The researcher community can play a vital role in improving the nutritional status of Pakistani population. This may require the integration of people from various fields including preventive health care experts, public health epidemiologists, agriculturalists, food scientists, food industry, research institutes, donor agents, and students. Coordinated effort of a diverse group of people is expected to influence national policies or at least be of some benefit to the local communities.

CONCLUSIONS

Core maternal and child nutrition indicators have only slightly improved, if at all, during the last decade. Despite sharp decline in iodine deficiency, other nutrients still remain to be addressed. The prevalence of obesity and associated diseases has also increased. These levels of malnutrition in Pakistan can be attributed to poverty, food insecurity, poor hygiene status, illiteracy, inadequate nutritional knowledge, and under-recognized role of nutrition in the country.

Poor nutritional status, through several ways, is linked to overall national impediment and is thus, one of the key preventable obstacles in national progress. The current state of malnutrition in Pakistan seriously calls for its low cost solutions requiring the integration and cooperation of a team of health care providers (including physicians, nutritionists, dieticians, nurses, and lady health workers), community welfare groups, media representatives, as well as the involvement of public and private sectors. This may ensure better nutrition and bright future for the generations to come.

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