ANALYSIS AND STRATEGY OF MALNUTRITION AND OBESITY IN CHILDREN

Mohammad Nazmul Hasan Maziz¹, Mohammed Ayaz Ahmed², Mohammed Irfan³, Mohammad Abdur Rashid⁴, Farzana Yasmin⁵, Mohammed Shahjahan Kabir⁶, Lubna Shirin¹

¹Faculty of Medicine, Bioscience and Nursing, MAHSA University, Bandar Saujana Putra, Selangor, Malaysia

²Department of oral and maxillofacial surgery, Dental unit, Mymensingh Medical College, Mymensingh. Bangladesh

³School of Medicine, International Medical University, Kuala Lumpur, Malaysia

⁴Faculty of Medicine, AIMST University, Bedong, Kedah, Malaysia

⁵Faculty of Science, Lincoln University, Petaling Jaya, Selangor, Malaysia

⁶Perdana University Royal College of Surgeons in Ireland (PU-RCSI), Damansara Heights, Kuala Lumpur, Malaysia

ABSTRACT

Due to the negative consequences of poverty, hunger, and insufficient learning opportunities, nearly 200 million children under five in developing nations are in danger of not attaining their full developmental potential. Furthermore, UNICEF estimates that 165 million children (1 in 4) are stunted, with 90 percent of these children living in Africa and Asia. While substantial progress has been made internationally, childhood malnutrition remains a significant public health issue with significant human and financial implications. A child's death is a tragedy. Six million people die every year, and far too many children die before they reach the age of five, but today's 200 million youngsters are much below their developmental potential is not that awful. On the other hand, this paper examines the current difficulties that children experience at a young age, such as hunger and obesity, and ways for addressing them.

KEYWORDS: MALNUTRITION, OBESITY, OVERWEIGHT, HYPERLIPIDEMIA, ORTHOPEDIC

1. INTRODUCTION

Children are a means of giving up and development. It seems to be beyond necessary to ponder children's desires and rights as more than "a minor result of this growth," but as a "give up and approach to develop themselves." Thousands of children worldwide are developing up in a position in which they will never be able to reach their full intellectual and physical potential. This tragic event holds the seeds of personal regeneration, which may be required to break the development process's self-perpetuating cycle. All those other initiatives in community services, food production, and human capital development may be much less effective if not done because many people will be unable to participate in or benefit from them entirely. According to UNICEF, the two measures of civilization are how well it protects the vulnerable and guarantees its future; Children are a country's backbone. Their well-being and economy are inextricably related to the performance of a nation. India has the second-largest child population in the world. As a result, preparing for a child's growth requires particular thought within the goal-based, thoroughly planned area. It must be considered a whole as part of the country's social well-being. India is a fast-developing country wherepoor sanitation, poverty, improper housing, hunger, and an absence of availability to education afflict a considerable section of the people. As a result, the development of the youth in this country will largely depend on the overall advancement of society and those in this country. As a result, the difficulty of newborn welfare cannot be examined in isolation. In the sooner days, baby care offerings have been constrained to the voluntary sector. These contributions have been carefully made for those afflicted by poverty, criminality, or mistreatment, among other things. Volunteer organizations such asthe Indian Red Cross Society, the Indian Council for Child Welfare, the Kasturba Gandhi National Memorial Trust, the All-India Women's Conference, the BalikaJiban, the Children's Aid Society, and others emerged in the mid-twenties which had prepared applications withinside the region of care, fitness vitamins, and schooling for youngsters. The number one establishment of the society included the own circle of relatives, and in maximum cases, the own joint circle of relatives was the obligation of baby care. The baby's physical, psychological, social, and cognitive improvement changed into confidence via means of the assets and the

DOI: 10.9756/INT-JECSE/V14I3.148

encompassing of the own joint circle of relatives. The transition from joint to own nuclear circle of relatives and modifications in socioeconomic repute has added many alterations in society.

2. ANALYSIS OF MALNUTRITION IN CHILDREN

Malnutrition is "a mismatch between dietary needs and consumption, leading to cumulative calorie, protein, or micronutrient deficits that can harm growth, development, and growth." [1] Childhood malnutrition lengthens hospital stays, increases infection rates, lowers functional status, and raises hospital expenses in the acute phase. [2,3]Chronic malnutrition is linked to a higher risk of metabolic, developmental, and behavioral issues, such as IQ loss and immunological dysregulation. Children with chronic conditions are at risk of malnutrition. Malnutrition must be detected, avoided, and treated early in life when children are still growing and developing. Malnutrition can be induced by a range of reasons in children with chronic conditions, including underlying diseases and non-disease variables.

When it comes to hunger, chronic conditions add another degree of complication. When considering the pathophysiological causes of malnutrition, diagnosing malnutrition, and delivering appropriate nutritional therapy, the underlying condition must be considered. Increased caloric needs, malabsorption, decreased capacity to use nutrients, and nutrient intake limits are why children with chronic conditions are at risk of malnutrition. Food tolerance and water status and the influence of changing hydration status on traditional anthropometric indicators such as weight and more thorough measurements of body composition complicate the diagnosis of malnutrition in chronic conditions (mass fat, fat-free mass, and total body water).

3. ANALYSIS OF OBESITY IN CHILDREN

The global incidence of pediatric obesity and illness has quickly increased during the last 20 years [48]. These patterns are linked to various social, economic, and physical changes that accompany dietary transition [9]. Increased consumption of fiber, sugar, sugary beverages, lack of physical activity, and consumption of energyinefficient meals with low lifestyle levels are all linked to nutritional transitions. As a result, obesity and obesity-related diseases are significant and pervasive worldwide health issues [10, 11]. For example, in the United States, the obesity pandemic is linked to a considerable increase in loved ones' healthcare expenses. Obesity in children is connected to severalsignificant medical issues. Orthopedic issues, metabolic disorders, type 2 diabetes, sleep disruptions, poor immunological function, skin problems, mobility challenges, and hypertension are some of the first medical impacts of obesity [12]. Childhood obesity may hurt a child's physical appearance as well as the following psychosocial consequences: B. Lack of personal growth, social estrangement, confessional apathy [12, 13], discrimination [14], girls depression [15]. Adult follow-up surveys of childhood visits are linked to other long-term health hazards. According to long-term follow-up surveys, fat children resemble obese adults [16,17]. Obesity that persists into adulthood is linked to cardiovascular disease, insulin resistance, type 2 diabetes, hyperlipidemia, gallbladder disease, osteoarthritis, and the risk of some malignancies. Obesity in children has long-term implications, including an increase. Furthermore, regardless of weight, individuals who were obese as children have an increased risk of illness and death. Even in children under ten, obese children are prone to attenuate growth spurts, slipped discs, leg and tibia curvature, sleep disorders, and orthopedic abnormalities linked with insulin resistance. It has been approved [16]. Obesity and overweight in children may be prevented and treated more quickly than in adults since youngsters are still tall. Children can decrease obesity without lowering their calorie consumption by raising their energy demand throughout growth. Maintaining a consistent calorie supply during development to reduce BMI weight index (BMI) and fat percent measurement is an example of an obesity kid treatment method. Obesity, on the other hand, may be treated without a considerable change in behavior when started at an early age. Pediatric studies have shown that the effects of all forms of therapies fade over time, although obesity therapy has long-term advantages [17]. However, in combating the obesity pandemic, prevention is possibly more beneficial than therapy [18]. Furthermore, effective overweight prevention in children is the first step in preventing obesity. Obesity prevention in children can help prevent obesity in adults and minimize chronic illness.

4. STRATEGY FOR OVERCOMING THE CHALLENGES FACED BY CHILDREN AS A RESULT OF MALNUTRITION AND OBESITY

Malnutrition diagnosis can be challenging due to various contributing variables, pathophysiological reasons, and a lack of accurate serological markers. Serum albumin levels, for example, should not be used to diagnose malnutrition since several variables other than nutritional statuses, such as inflammation and dilution in other states, alter serum albumin levels. They are overflowing with liquids. As a result, current malnutrition diagnosis criteria mainly focus on anthropometric cytology and nutritional intake. Overdiagnosis and undernutrition can both be caused by a single objective criterion. Subjective evaluation, such as the Subjective Global Nutritional Assessment, can assist in establishing an accurate malnutrition diagnosis.

DOI: 10.9756/INT-JECSE/V14I3.148

Obesity and weight problems can be avoided by learning about and considering the "allergenic environment" in which youngsters live. Environmental variables are emphasized in preventative efforts because they have the most excellent chance of having the most significant impact. Moreover, several other factors play a little influence in pushing the peak trends closer together. While genetic and environmental factors can play a role in teenage obesity, genetics alone cannot explain the epidemic. It is the environment that has changed, not the DNA. As a result, efforts to prevent obesity and adolescent weight issues, particularly treatments related to environmental factors, are primarily responsible for population recognition. This can be done on a vast scale and long-term (ideally multidisciplinary).

5. CONCLUSION

Malnutrition is widespread in children with chronic illnesses, and it impacts their prognosis. This study focuses on a few of the numerous chronic diseases that malnutrition can influence in children. Because the nutritional status of chronic disease in children is so complicated, the routine anthropometric examination is frequently insufficient for accurate malnutrition diagnosis. As a result, the practitioner must consider the patient's nutritional health in addition to weight and height. Parents should focus on their children's physical education and nutrition to combat obesity. They must assist young people with portion management, good food, and weight and fitness maintenance.

REFERENCES

- 1) Mehta NM, Corkins MR, Lyman B, et al. Defining pediatric malnutrition: a paradigm shift toward etiology-related definitions. JPEN J Parenter Enter Nutr. 2013;37(4):460-481.
- 2) 2. Corkins MR. Why is diagnosing pediatric malnutrition important? NutrClinPract. 2017;32(1):15-18.
- 3) 3. Secker DJ, Jeejeebhoy KN. Subjective global nutritional assessment for children. Am J ClinNutr. 2007;85(4):1083-1089. Keys A. The biology of human starvation, 1st and. Minnesota: Minnesota Press, 1950.
- 4) Barnow S *et al.*[Obesity in childhood and adolescence is the first of a multimodal intervention study in Mecklenburg-Vorpommern]. *PsychotherPsychosom Med Psychol* 2003; **53**: 7–14.
- Botvin GJ et al. Reducing adolescent obesity through a school health program. J Pediatr 1979; 95: 1060– 1063.
- 6) Brownell KD, Kaye FS. A school-based behavior modification, nutrition education, and physical activity program for obese children. *Am J ClinNutr* 1982; **35**: 277–283.
- 7) Christakis G *et al.* Effect of combined nutrition education and physical fitness program on the weight status of obese high school boys. *Fed Proc* 1966; **25**: 15–19.
- 8) Collipp PJ. New developments in medical therapy of obesity: thyroid and zinc. *Pediatr Ann* 1984; **13**: 465–472.
- 9) Christakis G et al. Effect of combined nutrition education and physical fitness program on the weight status of obese high school boys. Fed Proc 1966; 25: 15–19.
- 10) Collipp PJ. New developments in medical therapy of obesity: thyroid and zinc. *Pediatr Ann* 1984; **13**: 465–472.
- 11) Cortes LM *et al.* Formative research to inform intervention development for diabetes prevention in the Republic of the Marshall Islands. *Health EducBehav* 2001; **28**: 696–715.
- 12) Davis S, Gomez, Y, Lambert L, Skipper B. Primary prevention of obesity in American Indian children. In: Williams CK, Kimm SYS (eds). *Prevention and Treatment of Childhood Obesity*. New York Academy of Sciences: New York, 1993, pp. 167–180.
- 13) Davis CE et al. Design and statistical analysis for the Pathways study. Am J ClinNutr 1999; 69(4 Suppl): 760S-763S.
- 14) Davis K, Christoffel KK. Obesity in preschool and school-age children. Treatment early and often may be best. *Arch PediatrAdolesc Med* 1994; **148**: 1257–1261.
- 15) Davis SM *et al.* Pathways: a culturally appropriate obesity-prevention program for American Indian schoolchildren. *Am J ClinNutr* 1999; **69**(4 Suppl): 796S–802S.
- 16) Donnelly JE *et al.* Nutrition and physical activity programs attenuate obesity and promote physical and metabolic fitness in elementary school children. *Obes Res* 1996; 4: 229–243.
- 17) Epstein LH, Roemmich JN. Reducing sedentary behavior: role in modifying physical activity. *Exerc Sport Sci Rev* 2001; **29**: 103–108.
- 18) Epstein LH *et al.* Effects of decreasing sedentary behaviors on activity choice in obese children. *Health Psychol* 1997; **16**: 107–113.