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The Challenges of Managing Childhood and Adolescent Obesity

Obesity is a major public health challenge confronting the global community in the 21st century.[1,2] More than a third of the world's adult population are overweight. In the last four decades, obesity has more than tripled with 1.9 billion adults overweight, 650 million of whom are obese.[3] Obesity is quite worrisome with over four million people dying on an annual basis as a result of being overweight or obese.[3] Obesity is not limited to adults but children and adolescents (5–19 years) in all continents are increasingly affected. [3,4] Within a space of 40 years the prevalence of obesity among children risen dramatically from just 4% in 1975 to just over 18% in 2016.[4] Obesity which was previously regarded as a problem of high-income countries, is now growing most rapidly in low- and middle-income countries, especially in urban settings. [2,3,4] According to the World health Organization (WHO), most overweight or obese children reside in developing countries, where the rate of increase is more than 30% that of developed nations. (WHO).[5] Global statistics show that obesity among children 5- to 19-years increased in all parts of the world between 1975 and 2016 with the largest increase observed in southern part of Africa (approximately 400% per decade)[6]. There is a growing interest in the epidemic of childhood obesity in the continent of Africa because Africa suffers from the double burden of malnutrition with remarkably high prevalence of undernutrition and an increasing burden of overweight and obesity.[7] The number of states in African with a high prevalence of the double burden of malnutrition continues to rise. In this edition of the West African Journal of Medicine, Adeomi et al in their study reported a combined prevalence of overweight and obesity of 12.8%. This was higher than previously reported values among adolescents within the same community about a decade ago.

Overweight and obesity have been defined as the excessive fat accumulation that portends a risk to health.[4] In 2013, The American Heart Association recognized obesity as a disease requiring medical attention.[8] According to the International Classification of Diseases 11 (ICD-11) obesity is defined as *"a chronic complex disease defined by excessive adiposity that can impair health. It is in most cases a multifactorial disease due to obesogenic environments, psycho-social factors and genetic variants. Body mass index (BMI) is a surrogate marker of adiposity calculated as weight (kg)/height² (m²)."* [9]

In children and adolescents (5–19 years) overweight is defined as BMI-for-age more than 1 standard deviation above the WHO Growth Reference median while obesity is greater than 2 standard deviations above the WHO Growth Reference median.[3]

The aetiology of obesity is multifactorial, however the combination of exposure of a child to an obesogenic environment and poor biological and behavioural adaptation to the environment plays a major role. An obesogenic environment is one that promotes excessive weight gain and does not support weight loss.[3,10] A large proportion of the children in the world today live and grow in obesogenic environments. Globalization and urbanization have further aided this exposure in high-as well as low- and middle- income countries and across all socioeconomic strata.[10] An important aetiology in childhood and adolescent obesity is the energy imbalance, that is, excess caloric intake without adequate caloric expenditure.[3]

Children are now exposed to heavily processed, energy-dense, nutrient-deficient foods, high in sugars, salt, and fats. The rate of consumption of these cheap convenience foods is increasing at the expense of freshly prepared and minimally processed foods.[7,11] The decline in physical activity or play further complicates the situation resulting in energy imbalance.[11] Children now spend more time on screen-based

and sedentary leisure activities. Opportunities for physical activity, both in and even out of school has reduced drastically.[11] Adeomi *et al* in their study noted this and advocated for increase in physical activity among adolescents as a means of preventing adolescent obesity.

Among the noncommunicable disease risk factors, obesity in children (under 19 years), is worrisome due to its association with a wide range of health complications and its influence on young people's psychosocial development.[4,11] Childhood obesity also confers long-term effects on morbidity and mortality. It is a direct cause of childhood morbidities such as asthma, sleep apnoea, gastro-intestinal, musculoskeletal and ortho-paedic complications.[4,10,11] Children with obesity are at increased risk of developing type 2 diabetes and cardio-vascular disease. Obesity in childhood and adolescence results in the premature onset of other attendant comorbidities of adult obesity, including hypertension, hyperlipidaemia, coronary artery disease, non-alcoholic liver disease and cancers amongst others.[4] Furthermore, childhood obesity is strongly linked with behavioural and emotional difficulties, leading to stigmatization, bullying and poor socialization.[10] Amidst the risk factors for noncommunicable disease, obesity attracts more attention because of its capability to invalidate the numerous health benefits that have contributed significantly to improvement in life expectancy.[10,11]

Childhood obesity tracks into adulthood with the numerous associated morbidities resulting in loss of productivity and increase in health care costs.[2] Well over three-quarters of adolescents with obesity will become obese adults.[10,11] Obesity in adolescence is associated with premature mortality in adulthood.[12] Obesity begets obesity.[11] The intergenerational transfer of obesity risk, is a newly identified matter. It reveals how the epidemic of obesity now evident in adults will be perpetuated into future generations if the cycle is left un-interrupted.[11] The economic impact of obesity is enormous. The direct economic impacts of the obesity is associated with higher risk for several serious health conditions. Direct medical expenses on diagnosis and treatment of comorbidities is likely to increase with increasing obesity levels.[2] Information on the economic burden of obesity in childhood (5–19 years) is sparse however it encompasses the cost of treating or managing the early onset adult diseases and the accompanying financial costs when childhood obesity progresses into adulthood.[10] The premature development of non-communicable diseases hinders the individual's educational accomplish-ments, employability and places a substantial load on the health care structure, family members, employers and the community at large.[10]

Obesity is preventable however it intensely difficult and costly to cure.[4] Primary prevention involves the provision of adequate education for the child and family, as well as counselling on appropriate diet and exercise right from childhood through adulthood. Secondary prevention targets reduction of the consequences of childhood obesity and prevention of unhealthy practices and obesity into adulthood. The combination of primary and secondary preventive methods is required achieve excellent results.[13] Early recognition of children at risk and preventive action are critical.[3] The economic and health draining effects of obesity furthers supports the urgent need to take action to halt childhood obesity.[10] Prevention as the saying goes, is always better than cure. Previously obese persons experience huge challenges in maintaining a healthy body weight. Addressing childhood and adolescent obesity requires focusing on both the developmental and environ-mental considerations as there is no 'one size fits all' solution to stop the growth of the obesity epidemic. Interventions that focus on both the obesogenic environment and developmental components are necessary. The issue of childhood obesity is one that must be confronted with all seriousness. The rapidly increasing rates of childhood obesity cannot be overlooked.[10] All stakeholders as well as governments of nations must acknowledge and embrace their leading role in confronting the challenge of childhood and adolescent obesity. Refusal to intervene will have dire medical, social as well as economic consequences of unimaginable proportions.[10]

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