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Editorial

Global Surge in Adolescent Obesity: A Growing Crisis

Rupali Salvi

Department of Community Health Nursing, Bharati Vidyapeeth College of Nursing, Pune, Maharashtra, India

Obesity is a rapidly growing global epidemic, marked by the excessive accumulation of body fat that significantly increases the risk of chronic conditions such as diabetes, cardiovascular diseases, and certain cancers. Far from being merely the result of poor lifestyle choices, obesity is now understood as a complex, multifactorial disease influenced by a combination of genetic predispositions, environmental factors, and physiological processes.[1] The condition is primarily driven by a prolonged imbalance between caloric intake and energy expenditure, leading to sustained weight gain. The rising prevalence of obesity underscores the urgent need for comprehensive prevention and management strategies that not only address the biological underpinnings of the disease but also the broader social and environmental factors contributing to this public health crisis. Early intervention and the use of practical diagnostic tools such as body mass index and waist circumference are crucial in identifying at-risk individuals and implementing effective treatment plans to mitigate the severe health impacts of obesity.[2]

The World Health Organization ranks obesity as the fifth leading cause of death globally and predicts that by 2030, 30% of global deaths will be related to lifestyle diseases, underscoring the urgent need for early detection and intervention.[3] By 2022, one in eight people worldwide were living with obesity, and adolescent obesity had quadrupled since 1990. Among adults, the situation is particularly concerning, with 2.5 billion people being overweight and 890 million living with obesity. This reflects a significant rise from 1990, where only 25% of adults were overweight, compared to 43% in 2022.[4] Projections indicate that by 2050, obesity prevalence will reach 60% in adult men, 40% in adult women, and 25% in children, making it imperative to explore effective treatment options beyond traditional lifestyle modifications and bariatric surgery. Pharmacotherapy has emerged as a crucial alternative, with the FDA approving several drugs that have shown promising results in reducing body weight by at least 5% over a year. Modern approaches, such as machine learning, offer promising solutions for the early prediction of obesity, allowing for the rapid and accurate identification of risk factors and the implementation of effective prevention strategies.[5]

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Obesity in Adolescents

Adolescence is a critical developmental period characterized by significant physical, emotional, and social changes, making it a particularly vulnerable time for the onset of obesity. The global rise in obesity rates among adolescents is alarming, as it not only sets the stage for lifelong health complications but also increases the risk of developing chronic conditions such as type 2 diabetes, hypertension, and cardiovascular diseases at an earlier age.

Diabetes, which can be caused by obesity, is closely linked to poor sleep quality and fatigue, with many individuals experiencing challenges like insomnia, hampering their quality of life.[1] Additionally, obesity is a significant risk factor for hypertension, which in turn contributes to the development of cardiovascular diseases and other chronic health conditions.[2]

The primary driver of obesity during adolescence is an imbalance between energy intake and expenditure, where excessive caloric consumption is not adequately offset by physical activity. Early childhood adiposity rebound is a critical predictor of obesity later in adolescence and adulthood. Conditions such as type 2 diabetes mellitus, hypertension, non-alcoholic fatty liver disease, obstructive sleep apnea, and dyslipidemia are now being diagnosed in younger populations. Moreover, the psychological impact of obesity during these formative years is profound. Adolescents often face social

Address for Correspondence:
Rupali Salvi, Department of Community Health Nursing, Bharati Vidyapeeth College of Nursing, Pune, Maharashtra, India. E-mail: rumisa.kadam@yahoo.com

stigmatization, body image issues, and low self-esteem, which can lead to mental health challenges such as depression and anxiety.[6,7]

Interventions such as high-intensity interval training (HIIT) have shown promise in improving cardiometabolic risk factors in obese adolescents, particularly in enhancing cardiorespiratory fitness and lowering systolic blood pressure. While HIIT has proven more effective than moderate-intensity continuous training in these areas, both approaches may be necessary to address the multifaceted nature of adolescent obesity. The effectiveness of HIIT can vary depending on factors such as training modality, duration, and work/rest ratios, emphasizing the need for personalized exercise interventions in this population.[8]

The prevalence of overweight and obesity among adolescents has surged globally, with significant increases observed across all age groups. For instance, between 1975 and 2016, the global age-standardized prevalence of obesity in children aged 5–19 years escalated dramatically. In girls, it rose from 0.7% to 5.6%, while in boys, it increased from 0.9% to 7.8%. These trends are concerning as they not only predict obesity in adulthood but also lead to increased morbidity and mortality. Adolescents with obesity are more likely to have obese children in the future, perpetuating a cycle of poor health outcomes.

The prevalence of adolescent obesity is particularly high in low- and middle-income countries. For example, a study in India reported that 6.8% of adolescents were obese, and 17.1% were overweight. A broader review indicated that the prevalence of obesity and overweight among adolescents in Asian countries is 8.6% and 14.6%, respectively. Interestingly, studies in Western countries have shown that adolescents from lower socioeconomic backgrounds are more likely to be overweight. However, research on childhood obesity in Nepal has primarily focused on urban areas, with limited data from rural regions. Understanding the prevalence of obesity among rural adolescents and its associated sociodemographic and behavioral factors is crucial. Adolescence represents a key opportunity for preventive and health promotion activities, and identifying high-risk behaviors in this group can inform the development of targeted interventions to promote healthier lifestyles.[9]

Addressing obesity in adolescents requires a comprehensive strategy that includes promoting healthy lifestyle habits, creating supportive environments, and incorporating evidence-based exercise protocols. Increased research efforts, especially in pharmacotherapy and metabolic and bariatric surgery, are needed to combat obesity in pediatric communities of color. Nurses and health-care providers play a crucial role in early intervention, education, and advocacy to help reverse this troubling trend and safeguard the future health of this vulnerable population.

Beyond the physical health risks, obesity can have significant psychological effects on adolescents. Many young people struggle with body image issues and low self-esteem, which can lead to depression, anxiety, and social isolation. The stigma associated with obesity often exacerbates these feelings, creating a vicious cycle that can be difficult to break. Furthermore, obesity can negatively impact academic performance, as students may experience bullying, fatigue, or difficulty concentrating due to their weight.

Role of Nurses in Adolescent Obesity Management

Nurses play a pivotal role in combating the obesity epidemic among adolescents through a combination of direct patient care, advocacy, and community collaboration. Their involvement is crucial in both managing and preventing obesity, leveraging their unique position to provide compassionate care and valuable education.

Direct patient care and education

Nurses are often the first and most consistent health-care providers that children and adolescents encounter. This frequent interaction positions them uniquely to establish and reinforce health goals. They educate patients and families on the importance of a balanced diet, regular physical activity, and healthy lifestyle choices. By providing individualized health plans, nurses address specific challenges faced by young patients, making their interventions tailored and effective. Their role includes not only promoting exercise and healthy eating but also assessing risk factors and monitoring health to prevent obesity.[10]

Advocacy and holistic care

In addition to direct education and support, nurses advocate for their patients by bridging gaps between health-care providers, patients, and social services. They are well-placed to address broader social determinants of health, such as socioeconomic status, housing, and access to nutritious food. By recognizing and addressing these underlying factors, nurses contribute to reducing health disparities and improving overall health equity. Their advocacy efforts are crucial in ensuring that children and adolescents receive the necessary support and resources to manage and prevent obesity.[11]

Equity-oriented approach

Understanding and addressing health equity is fundamental to effective obesity management. Nurses apply a health equity framework to consider various factors affecting health, such as historical injustices, economic barriers, and discrimination. This approach helps in designing interventions that not only tackle obesity directly but also address the broader systemic issues influencing health outcomes.[12]

Community collaboration and policy implementation

Nurses also engage in community-level efforts, working with organizations to implement policies and programs that support healthier lifestyles. Their involvement in policy-making and community health initiatives ensures that prevention and care

strategies are effectively integrated into broader public health efforts. By supporting and advocating for effective healthcare strategies and policies, nurses help improve children's nutrition and physical activity, contributing to long-term solutions for obesity management.[13]

Innovative approaches and digital interventions

One innovative approach that has shown promise is the development of nurse-led referral pathways for pediatric weight management. In Canada, public health nurses have successfully implemented a referral pathway that allows them to directly refer children to specialized obesity care services, bypassing the need for physician referrals. This approach has improved access to timely care, particularly in cases where traditional referral methods might have caused delays. The positive reception of these pathways by both nurses and patients underscores their potential to enhance the efficiency and effectiveness of obesity management, making specialized care more accessible to those who need it most.[14]

In addition to traditional face-to-face interventions, digital health technologies are increasingly being integrated into obesity management strategies. These digital interventions, which include tools for self-monitoring, goal setting, and personalized feedback, have been shown to significantly improve lifestyle behaviors related to weight management. Nurses play a crucial role in guiding patients through these digital platforms, ensuring their effective use and maintaining patient engagement in their own care. By combining digital tools with the personalized care provided by nurses, these interventions can offer a comprehensive approach to managing adolescent obesity, promoting healthier lifestyles in a scalable and sustainable manner.[15]

Conclusion

Nurses are pivotal in addressing the adolescent obesity crisis through personalized care, advocacy, and innovative strategies such as digital tools and nurse-led referrals. Their unique role in prevention and management is crucial for promoting healthier futures for adolescents globally.

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