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Mini Review

Childhood Obesity: The Silent Challenge of Global Public Health

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Abstract

Childhood obesity represents one of the most significant public health threats of the 21st century. With rising rates in both developed and developing countries, its implications go beyond physical health, affecting mental well-being, psychosocial development, and life expectancy. This editorial article reviews the determinants of this epidemic, its clinical and social consequences, and proposes integrated actions from the fields of medicine, education, and public policy.

Keywords: *Childhood Obesity; Global Public Health; Psychosocial Development*

Introduction

Childhood obesity is no longer a rarity-it has become an epidemic reality. According to the World Health Organization (WHO) [1], in 2022 over 390 million children and adolescents aged 5 to 19 were overweight or obese. This phenomenon knows no borders or social classes and is linked to multiple chronic diseases, including type 2 diabetes, hypertension, cardiovascular disease, musculoskeletal problems, and psychological disorders such as anxiety and depression.

Given this outlook, the medical community is responsible not only for diagnosing and treating but also for preventing and educating. Childhood obesity is largely the result of an obesogenic environment that must be addressed through multi-actor and multisectoral strategies.

Diagnosing a sick environment

The etiology of childhood obesity is multifactorial. It involves a complex interplay of genetic, biological, behavioral, and environmental factors. While genetic predisposition may increase risk, it is the environment that enables its clinical expression.

1. **High-calorie, ultra-processed food:** Ultra-processed foods, rich in added sugars, saturated fats, and sodium, are increasingly accessible and heavily marketed to children. A study in Latin America found that up to 40% of children's caloric intake comes from these products [2]. Marketing campaigns targeting minors further entrench unhealthy dietary patterns from a very early age.
2. **Physical inactivity and digital sedentarism:** The decline of outdoor play and the rise of screen time (TV, tablets, video games) have led to more sedentary behavior. School-aged children spend an average of 4 to 6 hours a day in front of screens-far exceeding WHO recommendations.

3. **Socioeconomic inequalities:** Lower socioeconomic status is associated with higher rates of childhood obesity due to reduced access to healthy foods, safe spaces for physical activity, and nutritional education. Public policies must address this structural inequity.

Medical and psychosocial consequences

Childhood obesity is not merely excess body fat. It is a complex medical condition with multiple repercussions:

1. **Metabolic and cardiovascular comorbidities:** Numerous studies show a direct correlation between childhood obesity and metabolic disorders such as insulin resistance, dyslipidemia, and hypertension [3]. These conditions significantly raise the risk of early-onset type 2 diabetes and adult cardiovascular disease.
2. **Musculoskeletal disorders:** Excess weight strains joints and can lead to orthopedic issues such as knock knees, flat feet, and scoliosis. In the long term, these children have a higher risk of developing osteoarthritis.
3. **Psychological impact:** The stigma surrounding excess weight can lead to low self-esteem, school bullying, anxiety, and depression. The mental health of children with obesity must be addressed with the same priority as their physical health.
4. **Obesity persisting into adulthood:** About 80% of obese children remain obese in adulthood, dramatically increasing their risk of chronic diseases and premature death [4].

Family and school environment: Pillars of prevention

An effective strategy against childhood obesity must include families and the educational system as key agents:

1. **Nutritional education at home:** Eating habits are formed at home. Parents and caregivers should be guided to provide a balanced diet and avoid using food as a reward or punishment. Pediatric visits are an opportunity to deliver structured nutritional education.
2. **Schools as health promoters:** School cafeterias must offer balanced menus and restrict sugary drinks and ultra-processed foods. Daily physical activity and nutritional education should be included. School-based interventions have proven effective in reducing body mass index (BMI) and promoting long-term healthy habits [5].

Clinical intervention: Beyond the weight

In clinical practice, childhood obesity should be addressed in a comprehensive, individualized, and non-stigmatizing way:

1. **Comprehensive evaluation:** Diagnosis should go beyond BMI. It is essential to assess body composition, family history, psychological state, and lifestyle habits. Tools such as dietary history, physical activity logs, and self-esteem scales are useful.
2. **Interdisciplinary treatment:** Treatment should involve pediatricians, nutritionists, psychologists, and physical educators. Interventions must focus on improving overall health, not just weight reduction.
3. **Avoiding medical stigma:** Blaming language must be avoided. Respectful, health-focused communication-not appearance-based-enhances adherence and self-esteem in children.

Public policy and global action

Childhood obesity is not just an individual issue-it reflects collective choices. Therefore, strategies must extend beyond the clinical realm:

1. **Regulation of food advertising:** Several countries have enacted laws to restrict unhealthy food advertising targeted at children. In Chile, for instance, the 2016 legislation significantly reduced children's exposure to such advertising [6].
2. **Front-of-pack food labeling:** Clear labeling systems-such as warning octagons-help families make informed choices. These systems have been shown to reduce the consumption of sugar- and fat-rich products.

3. **Health taxes:** Taxing sugary beverages and ultra-processed foods, as in Mexico, can reduce their consumption and promote healthier alternatives.
4. **Active public spaces:** Urban design should include safe areas for play, sports, and active transport. Infrastructure can either facilitate or hinder healthy habits.

The role of medical research

Despite growing knowledge of childhood obesity, several areas require deeper research:

- Predictive biomarkers of early obesity.
- Personalized interventions based on nutritional genomics.
- Long-term effects of school programs.
- More effective communication strategies in pediatric care.

Researchers and universities should prioritize longitudinal, multicenter studies with a focus on social equity [7].

Conclusion

Childhood obesity is a complex, multifactorial, and preventable disease. Addressing it requires ethical, scientific, and social commitment involving all levels-families, schools, healthcare systems, governments, and the food industry. Identifying the problem is not enough; urgent, evidence-based, and sensitive action is imperative.

Doctors, as agents of change, must lead this effort through prevention, clinical support, and advocacy for public policy. This is not merely a health crisis-it is a crisis of the future. A healthy childhood is the foundation of a healthy, productive, and just society.

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