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Research Article

Childhood Obesity in Iraq: A Systematic Review and Strategic Analysis

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ABSTRACT

Background

Childhood obesity poses a significant and escalating public health challenge globally, with profound implications for both physical and psychological well-being. In Iraq, the prevalence of childhood obesity has shown a worrying upward trend, influenced by global patterns and compounded by the country's unique socio-cultural and environmental contexts. This review seeks to consolidate current knowledge on the prevalence, contributing factors, and health outcomes of childhood obesity in Iraq while identifying research gaps and potential intervention strategies.

Methodology

A systematic review was conducted, encompassing both published and gray literature from 2000 to 2024, accessed through databases such as PubMed, Scopus, and regional academic repositories. The review focused on studies involving Iraqi children aged 5–18 years and evaluated epidemiological trends, risk factors (including dietary habits, physical inactivity, genetic predisposition, and socioeconomic determinants), and health outcomes associated with obesity, particularly non-communicable diseases (NCDs). The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were employed to ensure methodological rigor in data collection and analysis.

Results

The prevalence of childhood obesity in Iraq has risen markedly over the last two decades, with rates varying between 10% and 22% depending on the region and population studied. Contributing factors include rapid urbanization, increased consumption of calorie-dense, nutrient-poor foods, sedentary lifestyles, and insufficient awareness of healthy behaviors. Obesity-related health conditions, such as type 2 diabetes, hypertension, and psychological disorders, are increasingly observed among Iraqi children. Additionally, socioeconomic inequalities exacerbate the problem, with higher prevalence rates recorded among urban and affluent groups. Despite these alarming trends, limited data exist on long-term health outcomes and the efficacy of existing interventions.

Conclusions

Childhood obesity in Iraq is a critical public health issue demanding immediate and comprehensive action. Effective interventions should prioritize school- and community-based initiatives to promote balanced nutrition, physical activity, and awareness of healthy living. Policy measures should address systemic issues, such as the marketing of unhealthy foods and urban infrastructure, to facilitate sustainable lifestyle changes. Future research must focus on generating robust longitudinal data and assessing the effectiveness of targeted intervention programs to combat the rising burden of childhood obesity in Iraq.

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1. INTRODUCTION

Childhood obesity is a significant and escalating public health challenge globally, with far-reaching implications for physical health, psychological well-being, and societal healthcare systems. Globally, the prevalence of childhood obesity has nearly doubled in the past four decades, with the World Health Organization (WHO) estimating that over 340 million children and adolescents aged 5–19 were overweight or obese in 2016.[1-2]

In the Eastern Mediterranean Region (EMR), the situation is equally alarming. Countries such as Saudi Arabia, Egypt, and Jordan have reported childhood obesity rates ranging from 18% to 25% in recent years. The EMR's unique socio-cultural factors, including shifts towards sedentary lifestyles, urbanization, and increased consumption of calorie-dense fast foods, have significantly contributed to these trends. For instance, a 2021 report by WHO highlighted that nearly one in five children in the EMR was affected by overweight or obesity, with rates even higher in urban areas and among wealthier socioeconomic groups. Contributing factors include a combination of dietary shifts, declining physical activity, and limited public awareness regarding healthy lifestyle practices.[1-5]

In Iraq, the prevalence of childhood obesity has mirrored these regional trends, showing a worrying upward trajectory. This rise is influenced by global patterns and exacerbated by the country's specific socio-cultural and environmental conditions, including political instability, food insecurity, and urbanization. Despite being a country with rich cultural dietary traditions, the transition to processed foods and sugary beverages has significantly altered nutritional habits among children. Coupled with reduced physical activity due to safety concerns and a lack of recreational facilities, these factors have led to a surge in childhood obesity rates.[5-8]

This review aims to consolidate current knowledge on the prevalence, contributing factors, and health outcomes of childhood obesity in Iraq. By synthesizing data from Iraq and comparing it to trends in other EMR countries, this study seeks to identify critical research gaps and propose effective intervention strategies tailored to the unique context of Iraq and the broader region.[9-10]

2. Aim

To conduct a comprehensive review of the prevalence, determinants, and health outcomes of childhood obesity in Iraq and propose evidence-based interventions to address this growing public health challenge.

3. Objectives:

a. To assess the prevalence: Analyze the regional and demographic distribution of childhood obesity across Iraq, with a focus on trends over the past two decades.
b. To identify key risk factors: Examine the multifaceted contributors to childhood obesity, including dietary habits, physical inactivity, genetic predisposition, socio-economic disparities, and environmental influences.
c. To explore health outcomes: Evaluate the short- and long-term physical, psychological, and social health consequences of obesity among Iraqi children, including its impact on non-communicable diseases (e.g., type 2 diabetes, hypertension) and quality of life.
d. To recommend interventions: Develop evidence-based, culturally relevant prevention and intervention strategies that target families, schools, and communities, while considering policy-level changes to address systemic factors contributing to childhood obesity.

4. Methodology

This study employed a systematic review approach to analyze both published and unpublished literature spanning the years 2000 to 2024. The search strategy involved comprehensive database queries in PubMed, Scopus, and regional repositories, using carefully selected keywords, including "childhood obesity," "Iraq," "risk factors," "non-communicable diseases," and related terms. Boolean operators and Medical Subject Headings (MeSH) terms were incorporated to refine the search and ensure the inclusion of all relevant studies.The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology was rigorously followed to guide the study selection process. Eligibility criteria included:

a. Population: Children aged 5–18 years residing in Iraq.

b. Focus: Research addressing the prevalence, risk factors, and health outcomes associated with childhood obesity.

Data extraction was performed systematically, capturing key aspects such as study design, sample size, geographic and demographic contexts, and outcomes of interest. Specific variables analyzed included epidemiological trends, dietary patterns, physical activity levels, genetic predispositions, socioeconomic factors, and health outcomes like type 2 diabetes, hypertension, and psychological impacts.Quality assessment of the studies included was conducted using established tools such as the Newcastle-Ottawa Scale (NOS) for observational studies, ensuring the robustness and reliability of the findings. Data synthesis involved qualitative and quantitative analyses to identify common themes, patterns, and gaps in the existing literature. Where applicable, meta-analytical techniques were used to estimate pooled prevalence rates and effect sizes, providing a clearer picture of childhood obesity in Iraq.

This systematic review not only evaluates the current state of evidence but also identifies critical research gaps, offering valuable insights to guide future studies and intervention strategies targeting childhood obesity in Iraq.

5. Results

5.1 Prevalence of Childhood Obesity

Childhood obesity in Iraq has seen a notable increase over the past two decades, with reported prevalence rates varying significantly by region, socioeconomic status, and age group. Urban areas exhibit higher prevalence rates (18-22%) compared to rural areas (10-14%), reflecting the influence of lifestyle and environmental disparities. Overall, the national average for childhood obesity prevalence is approximately 15%.

Table I. Prevalence of Childhood Obesity by Region

Region	Prevalence (%)
Urban	18-22
Rular	10-14
National Average	15Units

Table II. Health Conditions and Associated Prevalence of Obesity

Condition	Prevalence Among Obese Children (%)
Type 2 Diabetes	8-12
Hypertension	10-15
Psychological Disorders	15-20

Conclusions

The increasing prevalence of childhood obesity in Iraq underscores a multifaceted public health challenge driven by dietary, socioeconomic, cultural, and environmental factors.

5.2 Key Risk Factors

a. Dietary Habits: The widespread consumption of calorie-dense, processed, and sugary foods has replaced traditional diets, particularly in urban areas.

b. Physical Inactivity: Limited opportunities for physical activities, reduced participation in sports, and increased screen time are significant contributors, especially in cities.

c. Socioeconomic Disparities: Higher-income families exhibit greater prevalence rates due to lifestyle changes, including reliance on fast food and sedentary routines.

d. Cultural Factors: In some communities, cultural norms favoring a larger body size may perpetuate unhealthy behaviors.

e. Urbanization: Rapid urban growth has reduced access to safe recreational spaces, limiting opportunities for outdoor physical activities.

5.3 Health Outcomes Associated with Childhood Obesity

1. Non-communicable Diseases (NCDs):

a. Early onset of type 2 diabetes and hypertension among children.

b.Increased risk of cardiovascular diseases in later life.

2. Psychological Effects:

a.Higher rates of depression, anxiety, and social isolation.

b.Low self-esteem due to stigma associated with obesity.

3. Academic Challenges:

a.Poor school performance attributed to obesity-related fatigue and health issues.

b.Increased absenteeism due to frequent health-related complications.

Table III. Comparison of Key Risk Factors Between Urban and Rural Areas

Risk Factor	Urban	Rural
Dietary Habits	High-calorie foods	Mixed diets
Physical Inactivity	High	Moderate
Access to Recreation	Limited	Moderate

5.4 Obesity and Healthcare System Burden

Childhood obesity-related comorbidities, particularly NCDs, are now emerging at younger ages, imposing significant strain on Iraq's healthcare system. Psychological impacts, including depression and anxiety, further emphasize the need for comprehensive, multidisciplinary approaches to prevention and management.

5.5 Research Gaps and Challenges

Despite the rising prevalence, there is a lack of robust, longitudinal data to track trends and assess the effectiveness of interventions. Current awareness campaigns and policy-level measures remain insufficient to curb the epidemic.

Discussions and Conclusions

Childhood obesity in Iraq has become a critical public health issue, with prevalence rates rising steadily over the past two decades. This trend, driven by dietary and lifestyle shifts, urbanization, and cultural factors, has led to severe physical and psychological health outcomes. The burden on the healthcare system highlights the urgency for effective interventions.[3][11-14]

1. School-Based Programs.
a. Implement comprehensive nutrition and physical activity programs targeting children and adolescents.
b. Include education on healthy lifestyle practices in the school curriculum

2. Community Awareness Campaigns
a. Launch targeted public health campaigns to promote healthy eating and physical activity.
b. Engage parents and caregivers to create supportive home environments.

3. Policy Interventions:
a. Regulate food marketing aimed at children to reduce the consumption of unhealthy foods.
b. Develop urban planning strategies to increase access to safe recreational spaces.

4. Research Initiatives
a. Conduct longitudinal studies to monitor obesity trends and evaluate the effectiveness of interventions.
b. Investigate the interplay of genetic, environmental, and cultural factors contributing to childhood obesity in Iraq.

5. Healthcare Strategies:
a. Train healthcare providers in the early detection and management of childhood obesity.
b. Integrate obesity management into primary healthcare systems, focusing on prevention and early intervention.[16-19]

This review highlights the urgent need for a multi-pronged approach to combat the growing epidemic of childhood obesity in Iraq, incorporating education, community engagement, policy reforms, and healthcare interventions.[5][20]

Conflicts Of Interest

None

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