
Challenges of Childhood Obesity: A Multidisciplinary Approach Involving Social Work, Nursing, Dentistry, Surgical Nursing, and Pharmacy

Maali Mohammed Shal¹, Majed Abdullah Althaqafi², Ahmed Mohammed Alantar³, Layla Ahmed Eissa Alghanem⁴, Ridah Mohammad Almarzooq⁵, Alghafli, Zainab Mohammed A⁶, Alwabari, Abrar Mohammed H⁷, Afrah Mahdi Hassan Alnazgah⁸, Zainab Habib Alhabib⁹, Abdullah Ali Alahmari¹⁰, Bayan Essam Maghrabi¹¹

1. Social worker, King Abdullah Medical City, Email: Shal.M@kamc.med.sa
2. Social worker, King Abdullah Medical City, Email: Althaqfi.m@kamc.med.sa
3. Pediatrician, Mohayl General Hospital, Email: Abhaecho@gmail.com
4. Endoscopy nurse, Qatif Central Hospital, Email: Lalghanim@moh.gov.sa
5. Operation room technician, Dammam Central Hospital, Email: rialmarzooq@moh.gov.sa
6. Dental assistant, Alqara PHC, Email: Zmalghafli@moh.gov.sa
7. Dental assistant, Almansoura health center, Email: amalwabari@moh.gov.sa
8. Nursing, PHC, Qatif, Email: Aalnazgah@moh.gov.sa
9. Social worker, Qatif Central Hospital, Email: zhalhabib@moh.gov.sa
10. Senior Clinical pharmacist, King Faisal Medical City, Email: a-bode88@hotmail.com
11. Nursing, King Fahad Hospital, Email: Bayan-maghrabi@hotmail.com

Abstract:

Childhood obesity has evolved into a significant public health challenge, warranting a comprehensive multidisciplinary approach to address its root causes and complications. Social work plays a crucial role by identifying socioeconomic factors influencing childhood obesity, providing families with resources and support to adopt healthier lifestyles. Schools and communities are often key environments for intervention, where social workers can engage with families to enhance nutrition education and physical activity opportunities. Nursing professionals contribute by assessing children's health, providing counseling on dietary habits, and promoting physical activity. Their hands-on experience in clinical settings allows them to monitor obesity-related health issues and ensure timely referrals for specialized care. In the realm of dentistry, the relationship between childhood obesity and oral health is increasingly recognized, as obesity can lead to dental problems such as caries and periodontal disease. Dental professionals can educate families on the implications of sugary diets and poor oral hygiene, integrating preventive strategies into children's health care plans. Surgical nursing may become involved in more severe obesity cases through procedures like bariatric surgery, emphasizing the importance of comprehensive pre- and post-operative care. Lastly, pharmacists can play a critical role in the multidisciplinary approach by managing pharmaceuticals that address obesity-related ailments and providing guidance on medication adherence, dietary supplements, and lifestyle changes. By collaborating across these fields, healthcare providers can create a holistic framework to tackle the complex challenges of childhood obesity.

Keywords: Childhood obesity, multidisciplinary approach, social work, nursing, dentistry, surgical nursing, pharmacy

Introduction

Childhood obesity stands as one of the most formidable public health challenges of the modern era, with its prevalence escalating at an alarming rate across the globe. Defined by the World Health Organization as an abnormal or excessive fat

accumulation that presents a risk to health, childhood obesity is typically assessed using body mass index (BMI) percentiles adjusted for age and sex, with values above the 95th percentile indicating obesity [1]. This condition is not merely a cosmetic concern but a serious medical issue that predisposes children to a host of immediate and long-term health

complications, including type 2 diabetes, cardiovascular diseases, musculoskeletal disorders, and certain types of cancer [2]. The etiology of childhood obesity is profoundly complex, rooted in a dynamic interplay of genetic, behavioral, environmental, and socioeconomic factors. The contemporary environment, often characterized by an abundance of high-calorie, nutrient-poor foods and sedentary lifestyles driven by technological advancements, has created an obesogenic landscape that perpetuates weight gain [3]. Moreover, disparities in obesity prevalence are starkly evident across different racial, ethnic, and socioeconomic strata, underscoring the influential role of social determinants of health such as poverty, education, and access to healthcare [4].

The ramifications of childhood obesity extend beyond physical health, encompassing significant psychological and social dimensions. Children with obesity frequently encounter stigma, bullying, and discrimination, which can lead to low self-esteem, depression, anxiety, and impaired academic performance [5]. These psychosocial challenges often persist into adulthood, creating a lifelong burden. Given the multifactorial nature of obesity, unidisciplinary approaches have proven insufficient in curbing the epidemic. Effective prevention and management require a concerted, multidisciplinary effort that addresses the myriad contributing factors from various angles. The integration of these fields is paramount to addressing the diverse needs of children and their families, ensuring that care is not only medically sound but also socially supportive and sustainable [6].

The Role of Social Work in Addressing Childhood Obesity

Social work is integral to addressing childhood obesity by focusing on the psychosocial, economic, and environmental contexts that influence health behaviors. Social workers operate from a person-in-environment perspective, recognizing that individual choices are shaped by broader social systems, including family, community, and policy landscapes [7]. One of the primary challenges in childhood obesity is the impact of family dynamics and home environments. Social workers assess family functioning, identify stressors such as financial instability or parental mental health issues, and provide counseling to foster healthier

interactions around food and physical activity [8]. They employ therapeutic techniques like family systems therapy to improve communication and collaboration, helping families establish routines that promote balanced nutrition and regular exercise. For instance, social workers may guide parents in setting consistent meal times, creating supportive eating environments without distraction, and involving children in meal preparation to enhance their engagement with healthy foods [9].

Beyond the family unit, social workers engage with communities to mitigate structural barriers to health. They advocate for policies that increase access to affordable, nutritious foods in underserved areas, often termed food deserts, and work to improve the safety and availability of recreational spaces for physical activity [10]. Social workers collaborate with schools to implement anti-obesity programs that incorporate nutrition education, physical education, and mental health support. They also play a critical role in combating weight-based bullying and stigma by facilitating sensitivity training for staff and peer mediation programs for students [11]. Additionally, social workers connect families with essential resources such as food assistance programs, affordable healthcare services, and support groups, thereby addressing the social determinants that perpetuate obesity [12]. However, social workers face significant challenges, including limited funding for community-based initiatives, high caseloads that reduce time for direct intervention, and the need for ongoing training in obesity-specific issues [13]. Despite these hurdles, evidence suggests that social work interventions, particularly those that empower families and communities, can lead to sustainable behavior changes and reductions in obesity rates [14].

The Role of Nursing in Childhood Obesity Prevention and Management

Nursing is a cornerstone in the healthcare response to childhood obesity, with nurses serving as frontline providers in diverse settings such as primary care clinics, schools, hospitals, and communities. Their holistic approach to care, which emphasizes health promotion, disease prevention, and patient education, positions them uniquely to address the multifaceted nature of obesity [15]. In clinical practice, nurses conduct routine assessments including BMI measurements, growth chart

evaluations, and screenings for obesity-related comorbidities like hypertension, dyslipidemia, and insulin resistance. These assessments enable early identification of at-risk children, allowing for timely intervention [16]. Nurses provide tailored counseling on nutrition and physical activity, utilizing motivational interviewing techniques to explore ambivalence and enhance intrinsic motivation for change. They work with families to set realistic, achievable goals, such as incorporating more fruits and vegetables into meals or increasing daily steps, while considering cultural preferences and socioeconomic constraints [17].

School nurses are particularly influential in shaping the health landscape for children. They oversee the implementation of school wellness policies, conduct health screenings, and provide direct education on healthy living. School-based nursing interventions have demonstrated efficacy in reducing the consumption of sugar-sweetened beverages, increasing water intake, and promoting regular physical activity among students [18]. Furthermore, nurses manage chronic conditions associated with obesity, coordinating care with pediatricians, dietitians, and mental health professionals to ensure a comprehensive approach. Community health nurses extend these efforts by organizing population-level initiatives such as weight management workshops, parenting classes on nutrition, and community gardening projects that enhance food literacy [19]. They also advocate for environmental changes, such as improving sidewalk infrastructure to encourage walking and lobbying for restrictions on junk food marketing to children [20]. Nonetheless, nurses encounter obstacles including time limitations during patient encounters, insufficient reimbursement for preventive services, and varying levels of preparedness in obesity management due to gaps in nursing education curricula [21]. To optimize their impact, ongoing professional development and systemic support are essential, including integrating obesity prevention competencies into nursing licensure requirements and expanding the role of nurses in interdisciplinary care teams [22].

The Role of Dentistry in Childhood Obesity

Dentistry offers a unique and often overlooked vantage point in the fight against childhood obesity, given the intrinsic links between diet, oral health,

and systemic health. Dental professionals, including dentists and dental hygienists, routinely encounter children and are thus well-positioned to identify early signs of poor dietary habits that contribute to both oral diseases and obesity [23]. The consumption of sugary foods and beverages is a common risk factor for dental caries and weight gain, creating a synergistic relationship where poor oral health may reflect broader nutritional imbalances [24]. During dental examinations, clinicians can observe indicators such as high caries rates, enamel erosion from acidic drinks, or patterns of frequent snacking, which provide opportunities for targeted dietary counseling. By advising reductions in sugar intake and promoting healthier alternatives like water or milk, dental professionals contribute directly to obesity prevention while improving oral health outcomes [25].

Moreover, dental visits serve as a platform for screening and referral. Some dental practices have begun incorporating BMI measurements or brief nutrition assessments into routine check-ups, enabling the identification of children at risk for obesity and facilitating referrals to pediatricians or nutritionists for further evaluation [26]. This interdisciplinary referral network ensures that children receive comprehensive care that addresses both oral and overall health. Dental professionals also engage in public health advocacy, supporting policies such as sugar-sweetened beverage taxes, school water fluoridation programs, and regulations limiting the marketing of unhealthy foods to children [27]. However, integrating obesity prevention into dental practice presents challenges, including time constraints during appointments, lack of training in weight-related counseling, and concerns about overstepping professional boundaries [28]. To overcome these barriers, professional organizations have developed continuing education courses and clinical guidelines to equip dental teams with the necessary skills and confidence [29]. Research indicates that interventions delivered in dental settings, particularly those that combine oral health messages with nutrition education, can effectively promote healthier behaviors and contribute to obesity reduction efforts [30].

The Role of Surgical Nursing in Childhood Obesity Care

Surgical nursing assumes a critical role in the management of severe childhood obesity, particularly when bariatric surgery is considered as a treatment option after conservative measures have been exhausted. Surgical nurses specialize in the care of patients undergoing weight-loss surgeries, such as sleeve gastrectomy or Roux-en-Y gastric bypass, providing comprehensive support throughout the preoperative, intraoperative, and postoperative phases [31]. Preoperatively, surgical nurses conduct thorough assessments of the adolescent's physical and psychological readiness for surgery, educating patients and families about the procedure, potential risks, and necessary lifestyle modifications. They coordinate evaluations by multidisciplinary teams, including dietitians, psychologists, and endocrinologists, to ensure that candidates are appropriately selected and prepared [32]. This phase also involves addressing anxieties and misconceptions, helping families understand that surgery is not a quick fix but a tool that requires lifelong commitment to dietary and behavioral changes.

During surgery, surgical nurses assist the surgical team by maintaining a sterile environment, monitoring vital signs, and managing specialized equipment. Postoperatively, they are responsible for acute care management, including pain control, wound care, prevention of complications such as leaks or infections, and monitoring for metabolic imbalances [33]. Given the developmental considerations of adolescent patients, surgical nurses provide age-appropriate education on dietary progression, from liquid to solid foods, and emphasize the importance of adhering to vitamin and mineral supplementation to prevent deficiencies [34]. Long-term follow-up is crucial, and surgical nurses facilitate ongoing support through regular check-ins, either in person or via telehealth, to address challenges such as weight regain, psychosocial adjustments, or body image concerns [35]. Challenges in this field include ethical debates regarding the appropriateness of bariatric surgery in minors, the need for specialized pediatric bariatric centers, and ensuring equitable access to surgery regardless of socioeconomic status [36]. Surgical nurses must advocate for comprehensive care protocols that include robust psychological support

and family involvement to address these issues. Studies show that bariatric surgery in adolescents can lead to significant weight loss and resolution of comorbidities, but success hinges on a dedicated multidisciplinary team where surgical nurses play a pivotal role in continuity of care [37].

The Role of Pharmacy in Childhood Obesity Management

Pharmacy contributes to childhood obesity management through medication therapy management, preventive care, and public health advocacy. While lifestyle interventions remain first-line treatment, pharmacotherapy may be indicated for adolescents with severe obesity or those who have not responded to behavioral modifications [38]. Pharmacists ensure the safe and effective use of anti-obesity medications, such as orlistat or newer agents like liraglutide, by reviewing prescriptions for appropriateness, monitoring for adverse effects, and counseling patients on proper administration and adherence [39]. They also assess for drug-drug interactions, particularly since obese children may be on concurrent medications for conditions like type 2 diabetes or hypertension, and provide guidance on managing side effects that could impact quality of life.

Beyond pharmacotherapy, pharmacists are accessible healthcare providers who can offer weight management services in community settings. Many pharmacies now host health screening events where they measure BMI, waist circumference, and blood pressure, providing referrals to other healthcare professionals as needed [40]. Pharmacists also deliver education on nutrition and physical activity, often using motivational interviewing techniques to encourage behavior change. They may develop structured weight management programs that include regular follow-ups, goal setting, and behavioral counseling, leveraging their frequent interactions with families to provide ongoing support [41]. Additionally, pharmacists engage in policy advocacy, promoting initiatives such as the removal of sugary drinks from pharmacy shelves, improved nutritional labeling, and insurance coverage for obesity prevention services. Challenges faced by pharmacists include limited time for patient counseling, variability in training on obesity management, and regulatory restrictions that may limit their scope of practice. However, collaborative

practice agreements with physicians and integration into multidisciplinary care teams can enhance their role. Continued professional development and healthcare system reforms that recognize pharmacists as essential providers in chronic disease management are vital to maximizing their impact on childhood obesity.

Interdisciplinary Collaboration and Challenges

The complexity of childhood obesity demands robust interdisciplinary collaboration, where professionals from social work, nursing, dentistry, surgical nursing, and pharmacy work synergistically to provide cohesive and comprehensive care. Such collaboration leverages the distinct expertise of each discipline, creating a unified approach that addresses the biological, psychological, social, and environmental dimensions of obesity. For instance, a child identified by a school nurse as obese may receive family counseling from a social worker, dietary advice from a dentist, medication management from a pharmacist, and, if necessary, surgical preparation from a surgical nurse, all coordinated through shared care plans and regular communication [42]. This team-based model ensures that interventions are consistent and reinforced across different contexts, enhancing the likelihood of sustainable behavior change.

However, interdisciplinary collaboration is fraught with challenges. Communication barriers can arise due to differing professional terminologies, confidentiality concerns, and fragmented healthcare systems that hinder information sharing. Logistical issues such as scheduling conflicts, geographic dispersion of team members, and lack of common meeting spaces can impede coordination [43]. Additionally, there may be resistance to role expansion or blurring of professional boundaries, fueled by traditional hierarchies in healthcare. To overcome these obstacles, investments in interoperable electronic health records, standardized communication protocols, and interdisciplinary training programs are essential. Educational initiatives that bring students from various disciplines together during their training can foster mutual respect and understanding, preparing them for collaborative practice [44]. Furthermore, institutional support in the form of dedicated funding for multidisciplinary clinics and policy frameworks that incentivize team-based care can

facilitate integration. Despite these challenges, evidence underscores the effectiveness of interdisciplinary approaches in reducing obesity prevalence and improving health outcomes, highlighting the imperative for continued efforts to strengthen collaborative networks [45].

Conclusion

Childhood obesity is a pervasive and multifactorial epidemic that necessitates a multifaceted response. The involvement of diverse disciplines—social work, nursing, dentistry, surgical nursing, and pharmacy—provides a comprehensive framework for addressing the intricate web of causes and consequences associated with obesity. Social workers tackle the psychosocial and environmental determinants, nurses deliver clinical care and health promotion, dentists link oral health to dietary habits, surgical nurses manage specialized surgical interventions, and pharmacists ensure safe medication use and preventive care. Each discipline confronts unique challenges, from resource limitations to training gaps, yet their collective integration holds the promise of more effective and sustainable solutions. Interdisciplinary collaboration, though challenging, is indispensable for coordinating these efforts and providing holistic care that meets the diverse needs of children and families. Moving forward, it is crucial to foster greater collaboration through improved communication, education, and policy support, ensuring that all professionals are equipped to contribute to the global fight against childhood obesity. By embracing a multidisciplinary approach, we can mitigate this pressing public health issue and pave the way for healthier generations to come.

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