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Family-Centered Management of Childhood Obesity in Primary Care

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Abstract | **Review Article**

Obesity in children is a significant public health threat that causes a lot of physical, psychological and social problems. Owing to their regular interactions with children and families, primary care is an important setting for early identification, prevention and management. An article that reviews family-focused management of childhood obesity in primary health care is presented. It emphasizes family-centered principles, screening, and assessment, goal setting, behavior and lifestyle interventions, nutrition, physical activity promotion, and sedentary behavior reduction. It examines childhood obesity in primary health care. Additionally, the review examines the role of behavioral health, motivational interviewing, pharmacological and surgical options when appropriate, and referral pathways in complex cases. Moreover, it is important to think about the role of family, culture, health equity, care coordination, continuity of care, school and community, digital tools, quality improvement, and ethics. The evidence suggests that using family-centered approaches can boost engagement, help achieve more sustainable behaviour change, reduce stigma and better align obesity management with the child's developmental needs and family's priorities and circumstances. Despite evidence that most patients can cope, its use in primary care is hampered by competing clinical demands, limited training, insufficient resources, and inconsistent follow-up systems. The coordinated, culturally appropriate, and family-focused interventions that may strengthen capacity in primary care could assist in improving outcomes in childhood obesity across populations.

Keywords: Childhood obesity, Family-centered care, Primary care, Pediatric weight management, Lifestyle intervention.

1. INTRODUCTION

Childhood obesity ranks among the leading preventable causes of morbidity and mortality worldwide [1]. It is mainly due to poor dietary and inactivity practices and is aggravated by deteriorating social and environmental conditions, which also have negative consequences for children [2]. There is evidence showing that even modest lifestyle modifications can substantially reduce cardiometabolic risks, and that such interventions are most effective with direct parent engagement, supported by appropriate training [1]. Primary care is well positioned to address childhood obesity, given the nearly universal annual engagement of children with a health care provider [3]. National health organizations recommend family-centered strategies for managing childhood obesity in primary care; however, widespread implementation remains limited because of competing priorities and inadequate training and support [2].

2. Principles of family-centered care in pediatrics

Family-centered care is an approach to the planning, delivery and evaluation of health care that is grounded in mutually beneficial partnerships among health care providers, patients and families [4]. The family-centered care and service principles are based on the understanding that the family is the constant in a child's life [5]. In the context of widespread childhood obesity, the general principles of family-centered care reflect shared priorities across diverse communities and cultures [6]. Family-centered care principles encourage providers to i) try to engage families early, ii) acknowledge family expertise and determinants of health that extend beyond clinical care, and iii) explicitly try to attend to barriers—systemic and individual—that can stand in the way of equitable participation in desired health-promoting activities [2].

3. Epidemiology and impact of childhood obesity

Childhood obesity is a key health priority in many sectors [7]. Obesity rates among preschoolers

doubled and tripled for 2–3-year-olds between 1980 and 2012 [8]. In 2018, 14.9% were overweight and 19.2% obese; non-Hispanic black (22.0%) and Hispanic (24.0%) youths were most affected, compared to 14.6% for non-Hispanic whites and 15.7% for Asian Americans [9]. Addressing obesity in young children is critical but prevention is more effective than later treatment [10]. Primary care is the most appropriate setting for counselling, where 36% of parents of overweight toddlers would seek treatment, versus 12% for school-age children [11]. The 2020–2025 Dietary Guidelines call for urgent action to improve dietary quality and address food safety, particularly during early childhood [12].

Clinics should adopt a population health management approach, adapting the intervention to family context [13]. Tracking BMI during infancy into toddlerhood, ethnicity, and residence in food deserts improves risk-stratification [14]. Families with at-risk toddlers and preschoolers represent a rapid-growth high-risk population [15]. Traditional obesity evaluations can exacerbate stigma, particularly in this age group, and additional growth-monitoring messages are needed [16]. Examining social determinants of health and family stressors informs obesity-management discussions across all age ranges, even when targeting infants exclusively [17]. Prioritising family context fosters broader engagement and addresses the risk of social bubble-formation during transitional phases of childhood [13].

4. Assessment and screening strategies in primary care

Several tools exist for obesity assessment and screening in the primary care setting [18]. Pediatricians may benefit from tracking the Body Mass Index Growth Chart trajectory 25 as well as specific indicators—collectively termed “red flags”—to stratify patients by risk for comorbidities for which screening is recommended [19]. The 2020 Discipline-Specific Obesity Prevention and Management Toolkit of the Canadian Pediatric Society recommends the following obesity prevention and management assessment: a developmental history according to models that serve to identify potential influencers of the child’s nutritional environment, from in-home food availability to social network influences; comprehensive review of the child’s growth and BMI Growth Chart history; evaluation of any of the obesity “red flags” published by the Canadian Task Force on Preventive Health Care that may be present; screening for the presence of psychosocial comorbidities—family dysfunction, bullying, poor self-esteem, adverse childhood experiences, and mental health concerns—using a simple tool that is safe and applicable to children below 6 years; and a review of relevant pre-existing pediatric health conditions (obstructive sleep apnea, DM2, metabolic syndrome, etc.) or chronic conditions (eg, asthma) that may have intersecting treatment requirements [20]. These tools should be accompanied by the addition of sensitizing questions regarding observance of care regarding excessive screen-time, excessive eating patterns, family support structures, family framework engagement, family histories of childhood obesity, and time spend on sedentary hobbies [21]. Care for children ages 0-4 has received a high priority in the surrounding community; Additional specific and general symptoms applicable to pre-school aged children should receive appropriate attention [22]. Standardization should be made for the completion of any additional questionnaires [23]. Such questions circulated with the pre-visit planning package and shared with fellow providers may precede the visit [24].

5. Collaborative goal setting with families

Family-centered pediatric obesity management can prompt families to identify their priorities through structured goal-setting discussions [4]. The acronym SMART can be used as a simple framework to prompt thinking about goals: specific (well-defined), measurable (quantitative or descriptive indicators), achievable (realistically attainable), relevant (valuable to the family), and time-limited (feasible given current circumstances) [3]. Goal-setting strategies may include a family-wide action plan outlining specific actions by each family member to continue over 1 to 3 months; a behavior change ladder to indicate desired changes in frequency, convenience, and/or seriousness (from family member or expert perspective); and a menu of options for actions and changes [25]. Each approach can leverage open-ended prompts to clarify priorities among several competing goals [26]. When discussing priorities, templates or guiding questions may help structure the conversation [27]. Options include exploring which aspects feel easiest or hardest to address, what is missing in daily life, and which would have the most impact [28]. These and related topics elicit the family’s view of the biggest challenges, the steps needed to make them easier, and what the family considers a reasonable first change to pursue [2].

6. Behavioral and lifestyle interventions

Pediatric obesity is one of the greatest public health challenges today, with increasing prevalence and long-term adverse medical, psychosocial, and economic consequences [1]. The family-centered approach recognizes the fundamental role families play in supporting lifestyle change and weight management from early childhood and throughout development [29]. Family-centered care integrates families into the decision-making process, prioritizes family input to inform care, addresses family context, and endeavors to enhance family function [29]. Within this framework, the objective of the family-centered approach to obesity prevention and management is to promote a healthy weight through behavioral and lifestyle change, achieving desired impacts on health, functioning, and quality of life, while ensuring that interventions are

compatible with families' contextual circumstances and priorities [30].

Behavioral and lifestyle interventions should align with families' context, stage of readiness, existing habits, and available resources [31] Families can be served through three strata of intervention, which vary in intensity and duration. Universal-tier interventions provide broad-spectrum support to all families [32]. Targeted-tier interventions enhance universal-tier support by supplying additional guidance for families who may benefit on the basis of awards of attention or observed ineffectiveness of universal strategies [33]. Intensive-tier interventions augment targeted-tier support by providing more extensive and individualized assistance for families experiencing ongoing weight gain, growth velocity acceleration, or intensifying behavioral and lifestyle challenges [34]. Universal, targeted, and intensive-tier interventions are typically delivered over 3, 6, and 12 months, respectively [35].

7. Nutritional guidance and dietary considerations

Maintaining a healthy diet is crucial for children and adolescents [36]. Family-centered care promotes a family-oriented approach to dietary discussions, considering cultural differences and practicing culturally inclusive counseling [37]. Age-appropriate guidance on portion sizes, macronutrient distribution, and healthy substitutes empowers families to make informed choices and avoid restrictive dieting [38]. Respecting the family structure, conversations address dietary patterns, sugar-sweetened beverages, snacks, and mealtime routines without prescribing specific foods [39]. Supportive rather than instructive discussions lead to better adoption of healthy options and lifestyle changes [25].

Supporting children's and adolescents' growth necessitates good nutrition, an essential factor for health [40]. Many children and adolescents in the United States do not eat a healthy diet that meets energy and nutritional requirements [41]. Obstacles such as limited time due to school, work (for older youths), and sports—with associated effort and travel time—exacerbate this problem [42]. Other hurdles include heavy public school homework loads, lack of parental interest in nutrition, finicky eating behavior, and existing poverty [43]. Family-centered care takes a family-wide view to dietary considerations, acknowledging that families differ in cultural practices and how food is prepared and served [44]. Respect for how families eat entails not telling them what to eat, what to like, or how to behave around food [44]. Culturally inclusive counseling practices help communicate a willingness to consider differences in how families approach dietary habits [45].

Macronutrient composition, meal patterns, caloric intake, portions, and beverage consumption play a role in dietary guidance [46]. Age-appropriate preparation and attention to cultural preferences fit family-centered principles and promote wellness and safety [47]. Time crunches complicate meeting macros that remain within the lower healthy range to promote overweight prevention, which discourages child-directed eating or diet restriction planning [48]. Portion control is more relevant to these ages since children retain calorie regulation ability [49]. A Family-Centered Approach to Dietary Considerations and Empowering Families to Make Informed Dietary Choices illustrate the promotion of wellness-oriented dietary empowerment that aligns with family-centered principles [50].

Guidance for children aged five years and up on portion size, macros, and substitute foods offers information needed for informed choice-making and avoids imposing restrictive dieting [51]. Food-extending strategies and peanut-free substitute suggestions align with accompanying guidance for young children [52]. Portion guidance uses common standardized food-group approximations (e.g., fist size for starchy foods) instead of specific volumetric measures—fluid ounces, milliliters, grams, and teaspoons—thus avoiding numeric assessment in cases where parents have strong math aversion [53]. Illustration-based standard-size visual aids that suit family practice further boost the likelihood of either supporting the parent or assisting [54]. Indications that food group items commonly eaten are inappropriately consumed can lead to more practical action that nonetheless is neither news-driven nor planned. Full adoption without prior engagement or consideration may be unviable, especially for common household items suspended from the child's own practice [55].

Dietary pattern discussions follow normal chronological order with respect to family mealtime patterns established at home, if any [56]. Early resuming of family meals specifies format realization possibilities having been pre-engaged; inhibition is signalled at the engagement stage [57]. In family-meal situations and resources that limit half-portion choice availability guidance offered to older children during away-from-family sections reduces barrier impacts and increase chances for positive plot development [58].

8. Physical activity promotion and sedentary behavior reduction

Childhood obesity is a serious public health problem with significant morbidity and mortality consequences [59]. Although childhood obesity affects children of all ages, early childhood (ages 2 to 5 years) is a critical window to establish a healthy weight trajectory, given evidence that early obesity-related risk factors such as elevated body mass index (BMI), rapid BMI gain, and early adiposity rebound relate to later obesity [53]. Solidifying a healthy weight trajectory during this period increases the likelihood of maintaining a healthy weight throughout childhood and adolescence, thus improving health and quality of life and reducing later-life comorbidities [60].

Most children attend annual well-child visits, making primary care an appropriate setting to provide family-centered obesity management interventions [61]. Only half of children who are overweight or obese and visit a physician receive counseling about nutrition, physical activity, or weight; obesity may not even be discussed during these visits [62]. Many parents also welcome, and prefer, help from their child's physician with feeding practices, activity promotion, and weight management [63].

Family-centered management of pediatric obesity aims to partner with parents and caregivers to address concerns about unhealthy weight gain and associated health risks in children aged 2 to 5 years [4].

9. Behavioral health considerations and motivational interviewing

Epidemiological data underscore the urgent need for a population-based approach to obesity prevention that prioritizes early-stage intervention and considers behavioral, environmental, and societal determinants [64]. Lifting this burden requires novel strategies to fully engage families in preventive obesity care, and fit within clinician workflow. Current primary care practice falls short of these goals [64].

Families typically report that early engagement on the subject of childhood obesity is unexpected, despite ample recognition of it as a significant public health issue [64]. Primary care systems providing routine childhood-obesity screening rarely facilitate discussions on the subject during visits, limiting collective family capacity to address the concern in partnership with capable professionals [65].

Pediatric obesity prevention constitutes an opportunity to strengthen community systems for ensuring childhood wellness, family resilience, and community vitality [66]. Clear frameworks exist for further validating, sustaining, sharing, scaling, and measuring the Family-centered Care initiative, and community teams should determine how best to position and incorporate these principles in their broad strategies for systemic action [67].

10. Pharmacologic and surgical options: when to consider and referral pathways

The decision to pursue pharmacologic or surgical options for obesity management in children should be informed by evidence-based guidelines and the family's goals and readiness [68]. A growing body of evidence supports pharmacotherapy in children and adolescents aged 12 years or older with a body mass index (BMI) in the 95th percentile or above who have not achieved sustained weight loss through lifestyle changes; and for patients aged 18 years and younger with a BMI in the 95th percentile or above with additional obesity-related complications such as prediabetes [68]. Family-centered principles can further guide assessment of candidate medications and appropriate referral pathways to specialists with specific training in the use of these therapies [69].

Family-centered principles may apply to pharmacotherapy in children and adolescents aged 12 years or older with a body mass index (BMI) in the 95th percentile or above who have not achieved sustained weight loss through lifestyle changes; and for patients aged 18 years and younger with a BMI in the 95th percentile or above with additional obesity-related complications such as prediabetes [4]. Other medications are prescribed off-label; advocacy for a label expansion to reach younger children and earlier stages of obesity is ongoing [70]. Because treatments differ widely in mechanisms, eligibility requirements, risk–benefit profiles, and monitoring needs, decision aids can help clinicians match their preferred approaches to patients' clinical circumstances [71].

A systematic review of 15 studies concluded that robust evidence links obesity in childhood and adolescence with increased disability-adjusted life years and reduced health-related quality of life; and that obesity exacerbates psychosocial concerns and reduces general functioning [72]. Pharmacologic therapy can be considered in children aged 12 years or older who meet BMI-based criteria, when prior efforts at lifestyle change alone have failed, and the focus on weight loss remains aligned with family priorities [73]. For escalating obesity in younger children and in situations when parental capacity for instigating change is limited, broader obesity management may be appropriate and referral for medication considered [74].

11. Family dynamics, cultural considerations, and health equity

Family dynamics, cultural considerations, and health equity influence childhood obesity prevention and management [75]. Parents' perceptions of weight and weight-related interventions, family dynamics, and socioeconomic resources affect healthy practices adapted to implement recommendations, such as breastfeeding, family meals, media use, and sedentary behavior [76]. Racial and ethnic disparities persist in the type and number of risk factors, obesity-related awareness, access to preventive services, intervention uptake, and disease outcomes [77]. Community health workers serving as liaisons among families, communities, and clinicians address cultural and language barriers. Concerning poverty, families highlight stress, employment, housing, and food as critical issues overshadowing weight-related priorities [78]. Early-life risk factors associated with adverse health outcomes were reportedly lower among heavier Latino children receiving assistance from community partners [79]. Lifestyle interventions promoting healthy active living and family engagement at this age improve health-related quality of life, risk exposure, and long-term cardiometabolic health [80]. Tailored strategies

considering family, cultural, and community contexts promote health equity and effective obesity intervention [75].

12. Care coordination, follow-up, and continuity of care

Effective care coordination maximizes the potential of family-centered obesity management in primary care [2]. The challenge is to help families gain access to necessary services, sustain momentum in the management approach, and maintain continuity of the care plan throughout the child's developmental trajectory [5]. Primary-care teams can assume a pivotal role by developing a care plan outlining children's needs, steps taken to address them, and specific responsibilities of family members and other caregivers [82]. Written plans enable efficient communication when families transfer care, return to the practice, or seek assistance from outside providers [4]. Formal care-coordination services can strengthen these efforts, including outreach to families, resource recommendation, scheduling follow-up visits, and monitoring progress on plan components [81].

The family-centered obesity management plan should identify three to five objectives that are specific, measurable, achievable, realistic, time-bound, and trackable, with space for periodic completion dates and progress updates [83]. Scheduling follow-up visits at the same time as care-plan implementation helps maintain consistency and serves as a built-in reminder [3]. Corresponding reminders in the electronic health record and automated text messages to families can reinforce these milestone dates [84].

13. Community resources, school partnerships, and digital tools

Community connections also help extend care beyond the clinic. Partnering with schools, after-school programs, and local organizations improves families' access to healthy, enjoyable activities, amplifies messages about healthy behaviors, and encourages coordinated programming [85].

A range of evidence-based digital tools supports programming outside the clinic, and some permit remote delivery of education, counseling, or motivational interviewing through telehealth [5]. Additional parent education materials target specific topics and provide strategies families can readily incorporate into daily routines [86].

14. Quality improvement and measuring outcomes

Quality continuous improvement is a systematic approach to define, monitor, and enhance the quality of health care provided to pediatric patients and families [87]. In a primary care setting, improvement cycles with four distinct steps, commonly referred to as Plan-Do-Study-Act (PDSA) cycles, provide an iterative framework for teams to introduce, assess, and modify changes within an area of clinical focus [88]. To implement PDSA cycles concerning family-centered care for obesity, it is essential first to define specific metrics, select methods for data gathering and aggregation, and outline how to summarize and share results with appropriate stakeholders [89].

Relevant measures relate both to the family-centered process of care and to outcomes experienced by children and families [90]. Process metrics characterize care delivery, while outcome metrics reflect the impact of that care [91]. Each metric can originate from broad clinical guidelines, focus on a specific topic area (e.g., goal setting), or address a population of particular interest (e.g., children aged 8–12 years) [92]. This strategic definition clarifies the scope of both process and outcome measures needed to guide the improvement cycle, thereby simplifying the selection of information sources, establishing feedback loop frequencies, and ensuring continual engagement with key audiences [93]. Quality improvement initiatives in primary care benefit from visibility across the entire broader organization and, thus, require further specification to determine the appropriate frameworks and personnel for broader dissemination [94].

15. Ethical and legal considerations in pediatric obesity management

Obesity intervention involves balancing the need for patient autonomy, family involvement, and avoidance of stigma [95]. Specific ethical principles often emphasized in pediatric obesity management include beneficence, nonmaleficence, respect for autonomy, justice, and confidentiality [96]. These principles inform management recommendations and have been presented in different formulations [2]. The Asilomar Conference convened a panel of experts in pediatrics, child welfare, behavioral health, and medical law to consider the question, "When is it ethical to offer children weight-loss intervention?" [97]. They underscored the need for ethical and legal structures to facilitate discussion about the appropriateness of weight-loss intervention, attuned to the unknowns in the area [98].

16. CONCLUSION

Despite widespread recognition of childhood obesity as an urgent public health priority, access to effective obesity management remains limited in primary care. The majority of children with obesity do not receive appropriate screening or treatment. The recommendation for lifestyle intervention as first-line treatment is often overlooked. Even when a lack of access to specific interventions holds the highest priority, partners with family-centered principles remain poorly aligned with the complex realities of primary care. Designing family-centered approaches for obesity management in the pediatric primary care system necessitates due attention to the full scope and nature of the issue. Less than 15%

of preventive care visits include developmental surveillance. Factors contributing to this widespread neglect of a known and established priority include competing demands, inadequate information about the nature and configuration of the available services, and challenges in working effectively with families.

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