

Embracing the Parenting Role in Childhood Obesity: A Comprehensive Overview Childhood obesity has emerged as one of the most pressing public health challenges of the 21st century. Several parental characteristics have been identified as significant contributors to childhood obesity, including poor feeding practices, indulgent or permissive parenting styles, high levels of parental stress, and home environments that lack structure or support for healthy behaviors. Family dynamics—such as cohesion, communication quality, rules, roles, and responsiveness—shape both the environment and the behaviors that occur within it. For this reason, interventions should aim to create change at two major levels: (1) behavioral changes among individual family members, and (2) structural and relational changes within the family system itself. Parental involvement creates the foundation for meaningful environmental change, promotes healthier behaviors, and supports the formation of sustainable habits. Health complications include psychosocial stress, neurological disorders, respiratory issues, dental problems, cardiovascular risk, endocrine abnormalities, and various comorbidities. Parents act as the primary role models and gatekeepers of children's lifestyles, affecting dietary behaviors, physical activity routines, sleep patterns, and screen time habits. In particular, medium-to-strong levels of parental involvement are associated with the most substantial improvements in controlling body weight and maintaining healthy behaviors. Optimal strategies for engaging parents effectively have yet to be identified, and the mechanisms through which parental involvement influences children's outcomes are not fully understood. Emerging technologies—including mobile health platforms, internet-based interventions, and social media tools—offer promising avenues for reaching parents, particularly those who are difficult to engage through conventional methods. Parents frequently report high levels of acceptability for digital programs, yet participation tends to decline over time, mirroring the general drop-off in intervention effects. Over recent decades, global obesity rates among children have risen at an alarming pace, with prevalence doubling in over seventy countries since 1980. This framework highlights how multiple levels of influence—individual, interpersonal, community, societal, and policy—interact to shape health behaviors. Successful obesity prevention requires acknowledging the dynamic interactions, feedback loops, and cross-level effects that link these domains. More recent approaches emphasize systems thinking, arguing that obesity cannot be effectively addressed unless interventions consider the complexity of these interwoven influences. Thus, families must be viewed not merely as passive recipients of interventions but as active, core partners in decision-making during the development of obesity prevention programs. This evidence underscores the importance of understanding how families organize and manage daily lifestyle practices—knowledge that can help tailor interventions to meet the specific needs of individual households. First, it is essential to assess parental adherence patterns to better understand what factors promote or hinder sustained engagement. Childhood obesity is far more than a matter of excess weight; it carries profound short- and long-term consequences that span physical, psychological, social, and economic domains. In addition, active participation of stakeholders—children, parents, schools, and broader community institutions—has been shown to enhance the success of prevention strategies. To make matters more complex, parental influence begins even before conception and continues throughout infancy, childhood, and adolescence, extending even into early adulthood. Families not only shape daily routines and choices but also operate within broader social

determinants such as economic stability, built environments, food accessibility, and social context. These gaps are especially pronounced for interventions targeting adolescents, whose developmental stage may require different forms of parental guidance and support. Despite decades of research and numerous intervention efforts, preventing childhood obesity remains extraordinarily challenging. Current estimates from the World Health Organization indicate that approximately one in every five children and adolescents worldwide is overweight or obese. This rise is especially concerning for children from lower socioeconomic backgrounds, who are disproportionately affected and consequently face greater health inequities compared to their peers. This supports the concept that parental engagement is critical not only during the initial phase of an intervention but also throughout the long maintenance period that follows. This reality reinforces the need for comprehensive, multi-level approaches that directly address the full range of influences outlined in the social ecological model. Individual factors include genetic predisposition, demographic characteristics, knowledge, and attitudes. Because children's growth and development are deeply rooted in the family ecosystem, many current recommendations call for aggressive early childhood, family-centered interventions. Programs that involve parents through structured training, educational components, and practical home-based strategies result in stronger short- and long-term outcomes. This trend suggests that while technology presents new opportunities, it also introduces new challenges regarding long-term adherence and engagement. Parents' well-being, mental health, stress levels, and lifestyle habits are intricately connected to child outcomes, yet remain understudied. Programs that fail to address these deeper systemic elements may struggle to produce lasting improvements in children's health behaviors. Yet more work is needed to fully understand how parental involvement yields these effects, and what specific strategies best help engage families in both prevention and treatment. Cultural expectations and media contribute at the societal level, while the public policy environment also plays a crucial role. Research consistently demonstrates that family-based interventions outperform child-only approaches. Interestingly, some research even suggests that interventions focusing exclusively on parents may be more cost-effective. Parent-only interventions have produced results equal to or superior to interventions that target both parents and children, highlighting how deeply family-level decision-making and routines shape children's behaviors. Despite this solid foundation of evidence supporting parental involvement, significant gaps in current knowledge remain. Understanding childhood obesity requires acknowledging its multifactorial and complex nature