Paradoxically speaking about engagement in pediatric weight management

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Consistent with previous research showing that childhood obesity is more prevalent in low-income children (1), a paper recently published in Pediatric Obesity reported a positive relationship between children’s BMI and social adversities including financial difficulties in families (2). In the present article, we argue that children representing ethnic minority populations and lower-income families are not only at greater risk of obesity but also at heightened risk of poor engagement and utilization of pediatric weight management services.

Along with effective interventions, optimal engagement of children and families is required to address pediatric obesity and its adverse medical (e.g. risk of type 2 diabetes), emotional (e.g. depression) and social (e.g. isolation) consequences (3). Engagement in pediatric weight management, broadly defined as treatment-related decisions and actions that may or may not benefit patients, is characterized by low enrolment, high attrition and poor adherence (4–6). It is our view that three paradoxes related to engagement might help to explain why many children and families fail to achieve optimal outcomes in pediatric weight management.

The enrolment paradox: those who are more likely to enrol are less likely to benefit from treatment

Enrolment in obesity interventions varies depending on children's age, sex and weight status as well as parents’ income, education and perceptions of their children’s lifestyle behaviours (7,8). Older children and children with obesity are more likely to be (i) seen by their parents as having a weight problem (9) and (ii) referred to and enrolled in obesity interventions compared with their younger and leaner peers (4,10). However, children who are younger and less overweight are more likely to benefit from care (11). The inverse relationship between the likelihood of benefitting from treatment and the likelihood of enrolling in care does not suggest that more effort and resources should be devoted to address overweight as opposed to obesity. Conversely, it highlights the importance of obesity prevention in children who are overweight through early screening of excess weight and timely enrolment in health services or interventions to help children.

The adherence paradox: those for whom greater adherence to behavioural advice is necessary to manage excess weight are the least likely to act accordingly

In the context of managing childhood obesity, behavioural advice can be delivered in the form of guidelines or treatment recommendations. These two forms of advice are not mutually exclusive because treatment goals may reflect guideline recommendations or intermediate steps to meet recommended guidelines. Little is known about patient adherence to pediatric weight management (5); however, some data suggest that children who adhere to dietary and/or physical activity guidelines are more likely to be normal weight (vs. overweight or obese) (12), younger (vs. older; Kovács et al., 2015) (12) and Caucasian (vs. ethnic minority) (13). Compared with their peers, children who adhere to recommendations are also more likely to come from higher-income families and have parents with higher levels of education (14,15). Studies that examined proxy measures of treatment adherence, including programme completion, motivation to make lifestyle changes, and perceived barriers and support, have reported that (i) non-completers (vs. completers) are more likely to be heavier (16), older, of ethnic minority,
and with a lower income (17,18) and (ii) children with obesity (vs. less obese children) are less ready as well as perceive more barriers and less support to make healthy lifestyle changes (19, 20). Taken together, these findings suggest that children who are less likely to adhere to dietary and physical activity guidelines are more affected by or at a higher risk of obesity. Additionally, adolescents’ independence in making their own lifestyle choices increases the complexity of obesity management in this group because parents, in general, tend to have less direct influence during this period of growth and development.

**The attrition paradox: those who would potentially benefit the most from remaining in care longer are more likely to leave care prematurely**

Because obesity is a chronic condition that requires making and maintaining healthy lifestyle habits, children with obesity are likely to need (and benefit from) long-term care and support. Attrition from weight management interventions, generally defined as leaving care prematurely, has been associated with socio-demographic, anthropometric and contextual factors (6). Specifically, children with obesity who are older, of ethnic minority, and low income are more likely to discontinue care compared to their peers (6). Further, those who leave care prematurely may not attempt to seek care again if they become less confident in obesity management (21). Because pediatric obesity disproportionally affects children who are older, of ethnic minority and lower income (1), those more likely to drop out of care may also benefit the most from long-term support for weight management.

In the field of pediatric weight management, little attention has been given to engagement management, which is essential to plan, deliver and evaluate health services and interventions for managing obesity. Engagement in pediatric weight management is multifactorial, often modifiable, and needs to be understood as multiple engagements that include children, parents, family members and healthcare professionals. Evidence-based strategies, either as stand-alone quality improvement efforts or built into randomized controlled trials designed to evaluate intervention effectiveness, are needed to enhance engagement, especially among children who are less likely to initiate, continue and adhere to health services and interventions for managing pediatric obesity.

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**References**