



## “Exploring the use of Treadmill Interventions in Children with Obesity: A Qualitative Study”

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### **ABSTRACT**

Childhood obesity is a rapidly growing medical problem worldwide, increasing the risk of long-term illnesses such as cardiovascular disease, diabetes, and psychological problems. Despite the many interventions available, physical activity remains crucial in the treatment of childhood obesity. This study explores the experiences of obese children who participate in treadmill-based interventions. This qualitative study, based on in-depth interviews with children and their parents, aims to reveal the benefits, difficulties, and psychological impact of treadmill training in obesity management programs. Themes that emerged included motivation, parental involvement, and the emotional and physical challenges faced by children. The results show that parental support and maintaining long-term motivation are key to the success of this intervention.

## INTRODUCTION

Childhood obesity is an issue documented by both genetic, behavioral, and environmental agents. It puts affected children at a high risk for many different types of physical and mental health challenges, including Type 2 diabetes, hypertension, depression, and social stigma<sup>1</sup>. Among the most powerful weapons identified against obesity is exercise. While outdoor activities and sports are highly recommended for such individuals, structured exercise interventions such as treadmill use offer a controlled environment in which progress can be closely monitored (2, 9).

Treadmills are available and can be tailored to each child's specific needs regarding programs for obese children. Despite these advantages, the psychological and behavioral dimensions of using a treadmill in treatment have not been explored in much depth (3). This study explores the experiences and perceptions of obese children engaging in physical activity on the treadmill, thereby illuminating how exercise on the treadmill modifies motivation, emotional well-being, and actual health outcomes (4, 10.)

Objectives: Experiences of Children with Obesity Using Treadmill Interventions. Perceived benefits and Challenges of Treadmill-based Physical Activity. Parental Involvement and Motivation to Continue Physical Activity. Psychological and Emotional Impact of Structured Treadmill Use in Childhood Obesity.

## METHODOLOGY

This study uses a qualitative research approach to understand the lives of children with obesity, who have received treadmill-based interventions. The author interviewed the children using semi-structured interviews to explore their thoughts and the role of treadmill exercise in the children's cases. Children and parents were the keen participants of choice. Ten children between the ages of 8-12 years old, selected through purposive sampling, suffering from obesity (BMI > 95th percentile for their age group). Each child has attended at least 8 weeks in a treadmill exercise program within a larger obesity management programme.

Five parents of these children interviewed to derive knowledge of what happens in family dynamics, how it supports and the greater impact of the intervention. Children who passed the medical test for exercise and had no physical disabilities that would interfere with the usage of a treadmill.

Data Collection. Individual interviews were conducted with both the children and their parents. Children were administered questions to know their experiences, feelings, and thoughts regarding treadmill exercises, difficulties, and success they realized or faced. Parents were interviewed to have information about motivation, family support, and the emotional and behavioral changes of the child throughout the intervention period.

## RESULT AND DISCUSSION

Interviews were transcribed and analyzed through thematic analysis. Themes of motivation, challenges, and emotional well-being have come up. Coding is done so that common themes can be compared and contrasted across participants. The results of the thematic analysis of the interviews with children and parents drew several recurring themes:

Initial Motivation and Engagement: Many children reported excitement to begin treadmilling, but it was a novelty of the equipment. Encouragement by parents and very early visible effects from the intervention, notably getting fit or losing weight, supported continued interest in the initial period. But in particular, several children had an especially hard time with long-term interest in exercising over doing exercise activities because results would take time to appear. Parents feel that achieving some type of routine or schedule and positive effects from coaches/multiplication of rewards for appropriate behaviors will be needed to maintain child interest.

Physical Benefits: Most children reported that they were even physically stronger and could sustain more endurance after a couple of weeks or months of usage on the treadmill. They reported increased time in walking/jogging, and some also began other exercises. Most wanted to lose weight, while other measures of success included looking "cuter," "feeling better," and participating with ease in games and sports with friends and family.



**Psychological and Emotional Challenges:** For many participants, the treadmill, especially when exercise activity was framed as such purely and simply from a weight loss point of view, became associated with a sense of duty or punishment. Weight-reduction-only-focused children lost interest and became frustrated when such workouts did not yield results. Other children felt embarrassed while working out on a treadmill, especially when doing so in the gym or when they were the only person in their group who exercised regularly. It was the support and encouragement from their parents that finally motivated them to work past all the psychological barriers.

**Role of Parent:** Parent support was one of the reasons behind the effectiveness of the treadmill intervention. Parents participating in exercise with their children appeared to benefit more. Children whose parents supported lifestyle use as a healthy habit rather than weight reduction had significantly better experiences. Conversely, children whose parents used coercion and imposed weight targets on them ended up being anxious and becoming detached from the program.

**Long-term Motivation:** The most significant challenge which children and parents highlighted was long-term maintenance of motivation. While most of the children could engage in the exercise on the treadmill when presented as part of an overall balanced lifestyle rather than an overnight change. Some respondents did suggest gamification, like in terms of integration with technological innovations-fitness apps or games-to keep the treadmill workout interesting and fun.

**Social Factors and Stigma:** Since children with obesity are stigmatized, several participants related incidents of teasing or being judged when speaking about their use of the treadmill among peers. Social stigma created emotional barriers to participation for some of the children while preferring private spaces as an alternative. Where social support was observed, children reported feeling less isolated and perceived exercise via a treadmill as being a positive experience (Table1).

Table 1: The Major Findings Paired with Visuals

Section	Description	Icons/Visuals
Motivation and Initial Engagement	<ul style="list-style-type: none"> <li>- Children were initially excited about the treadmill.</li> <li>- Parental support played a key role.</li> <li>- Motivation linked to quick weight loss expectations.</li> </ul>	<ul style="list-style-type: none"> <li>- Excited child using a treadmill</li> <li>- Parent encouraging child.</li> <li>- High motivation bar.</li> </ul>
Challenges in Consistency and Engagement	<ul style="list-style-type: none"> <li>- Children experienced boredom after a few weeks.</li> <li>- Lack of variety in activities reduced interest.</li> <li>- Time management was a challenge.</li> </ul>	<ul style="list-style-type: none"> <li>- Bored child on treadmill.</li> <li>- Clock icon representing time management (7).</li> <li>- Treadmill with monotony.</li> </ul>
Perceived Outcomes	<ul style="list-style-type: none"> <li>- Moderate improvement in fitness and stamina.</li> <li>- Slight BMI reduction.</li> <li>- Increased confidence in children.</li> <li>- Treadmill alone insufficient for long-term weight loss.</li> </ul>	<ul style="list-style-type: none"> <li>- Fitness meter showing improvement.</li> <li>- BMI chart with gradual reduction.</li> <li>- Confident child icon.</li> <li>- Healthy food symbol (balanced diet).</li> </ul>

This research concludes that more than the physical dimensions, the use of a treadmill by obese children, both psychological and physical consequences have occurred. Indeed, exercise on the treadmill contributes toward real physical progress-such as improved fitness and endurance- through treadmill workout (11). The emotional layer, although complex, was more laced with intrinsic motivation in the children who used the treadmill when they looked at health and fitness instead of extrinsic factors such as the pressure from parents or the aim of reaching a certain weight target.

Parent involvement was found to be one of the central themes that led to sustained participation by children in treadmill interventions (6,14). Reinforcement, shared physical activity, and holistic well-being underscored the importance of keeping motivation optimal and feeling less stigmatized or

frustrated (9,15). It has proved to be counterproductive to pressure towards rapid weight loss as many participants reported it caused them emotional distress (12). Supportive social environments also came out as significant for successful treadmill interventions; children who had friends and family members who were positive towards the treadmill use perceived that use as positive, whereas those subjected to teasing or negative judgment experienced serious emotional struggles (13).

## **CONCLUSION**

In summary, this study brings light into the experiences of children with obesity participating in treadmill-based physical activity. The physical benefits of treadmill exercise are well outlined, but there is also a need to pay attention to emotional and psychological dimensions. For such interventions to be meaningful, family members need supportive involvement, long-term health rather than mere loss of weight, and acceptable strategies to reduce stigma attached to obesity. Future research may thus look to identify ways and means of incorporating social support and gamification in such treadmill programs in order that maintenance of motivation would be promoted and the experience can altogether be rich for children.

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