

Family-Reported Barriers to Weight-Management Adherence in Children with Obesity: A Six-Month Longitudinal Study

Shokery Awadalla, MD^{1*} and Margarita Vega, MD²

¹Professor in Pediatric Endocrinologist at Fundación Universitaria de Ciencias de la Salud, Bogotá, Colombia

²Fellow in Pediatric Endocrinology at Fundación Universitaria de Ciencias de la Salud, Bogotá, Colombia

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***Corresponding author:** Shokery Awadalla, Professor in Pediatric Endocrinologist at Fundación Universitaria de Ciencias de la Salud, Bogotá, Colombia

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ABSTRACT

Family participation is an essential component of pediatric obesity management. However, maintaining nutritional and physical activity recommendations over time can be difficult because children depend on parents and other caregivers for access to food, supervision and opportunities for physical activity. among children with obesity attending a private pediatric endocrinology practice in Bogotá, Colombia. 235 children from 200 families were followed up every 2 months for 6 months to describe barriers to adherence. Participants had a body mass index above the 95th percentile for age and sex. Families received nutritional and physical activity recommendations. At two months, 80 boys (65.6%) and 90 girls (79.6%) had reduced weight. At four months, the corresponding proportions were 49.2% and 63.7% and at six months they were 36.9% and 53.1%. Overall, the proportion classified as having reduced weight decreased from 72.3% at two months to 44.7% at six months. The most frequently reported barriers were limited parental time to perform physical activity with the child (55%), inconsistent support from grandparents regarding recommended foods (32%) and the child's refusal to follow dietary or physical activity recommendations (18%). Limited parental time and inconsistent dietary support from grandparents were the most frequently reported barriers for pediatric obesity management.

Keywords: Childhood obesity; Family support; Treatment adherence; Physical activity; Nutrition

INTRODUCTION

Obesity is a chronic, complex and multifactorial condition influenced by biological, behavioral, social, environmental and family-related factors. In children and adolescents, assessment of weight status must account for age and sex because growth and body composition change throughout development. Clinical guidelines recommend early evaluation and comprehensive management rather than an exclusively passive or short-term approach.^[1]

Lifestyle management remains an important component of pediatric obesity care. Effective interventions commonly include nutritional counseling, physical activity, behavioral support and active involvement of parents or caregivers. Current recommendations emphasize family-based and multicomponent interventions because children frequently depend on adults for food purchasing and preparation, transportation, supervision, scheduling and access to opportunities for physical activity.^[2]

Evidence from clinical trials indicates that family-based behavioral interventions can improve weight-related outcomes in children when they are implemented with adequate intensity and continuity. Nevertheless, parental participation varies considerably across interventions and the optimal role of parents and other caregivers has not been fully established. Time requirements, treatment availability, family organization and competing responsibilities may affect engagement and adherence.^[3,4]

Grandparents may also participate in childcare and food-related decisions, particularly in households in which several family members share responsibility for the child. Consequently, conflicting recommendations among parents, grandparents, children and healthcare professionals may make sustained behavioral change more difficult. Identifying these barriers in routine clinical practice may help clinicians design interventions that are more feasible for families.

The objective of this study was to describe the proportion of children with obesity who achieved weight reduction at two, four and six months of follow-up and to identify the principal family-reported barriers to adherence to nutritional and physical activity recommendations in a private pediatric endocrinology practice in Bogotá, Colombia.

MATERIALS AND METHODS

A descriptive longitudinal observational study was conducted in a private pediatric endocrinology practice in Bogotá, Colombia. Children were eligible when they have a body mass index above the 95th percentile for age and sex. Children with genetic or hormonal pathology were excluded. At the initial consultation, children and their families received recommendations concerning healthy eating and physical activity. The nutritional recommendations included dietary plan, portions, food groups, meal frequency, restrictions and educational materials. The physical activity recommendations included was evaluated with the sport department and adjusted for every child regarding the type, frequency, intensity and duration of activity . The children were evaluated every two months for six months. Clinical assessments were performed at baseline and approximately two, four and six months after enrollment. Weight reduction was defined as weight loss of 0.5 Kg or more in each visit. Categorical variables were summarized using absolute frequencies and percentages. Continuous variables were summarized using means and standard deviations or medians and interquartile ranges, according to their distribution. The proportion of participants classified as having reduced weight was calculated at two, four and six months. Results were presented overall and stratified by sex.

RESULTS

A total of 235 children from 200 families were included. Of these, 122 (51.9%) were boys and 113 (48.1%) were girls. The mean age was 11.0 ± 0.9 years. All included participants had a BMI above the 95th percentile for age and sex. At the two-month assessment, 80 of 122 boys (65.6%) and girls, 90 of 113 (79.6%) reduced weight of 1.2 ± 0.2 Kg. At four months, 60 boys (49.2%) and 72 girls (63.7%) reduced weight of 0.9 ± 0.15 Kg. At six months, the number was 45 boys (36.9%) and 60 girls (53.1%) with loss of 0.6 ± 0.2 Kg. Using the initial cohort as the denominator, 170 of 235 participants (72.3%) were classified as having reduced weight at two months, 132 (56.2%) at four months and 105 (44.7%) at six months. The proportion classified as having reduced weight therefore declined by 27.6 percentage points between the two- and six-month assessments. At each follow-up point, the observed proportion was higher among girls than among boys (Table 1).

Table 1: Proportion of participants classified as having reduced weight during follow-up

Follow-up	Boys, n/N (%)	Girls, n/N (%)	Total, n/N (%)
2 months	80/122 (65.6)	90/113 (79.6)	170/235 (72.3)
4 months	60/122 (49.2)	72/113 (63.7)	132/235 (56.2)
6 months	45/122 (36.9)	60/113 (53.1)	105/235 (44.7)

The most frequently reported barrier was limited parental time to perform the recommended physical activity with the child, reported in 55% of the questionnaires. Lack of cooperation from grandparents, particularly through offering foods that were not included in the nutritional recommendations, was reported in 32%.

Refusal by the child to consume the recommended foods or perform the recommended physical activity was reported in 18% (Table 2).

Table 2: Family-reported barriers to adherence

Reported barrier	Percentage
Limited parental time for physical activity with the child	55%
Grandparents offering foods that were not recommended	32%
Child's refusal of recommended foods or physical activity	18%

DISCUSSION

In this longitudinal cohort of children with obesity attending a private pediatric endocrinology practice, the proportion classified as having reduced weight decreased progressively over six months of follow-up. Approximately 72% were reported as having reduced weight at two months, compared with 56% at four months and 45% at six months. The decline was observed in both sexes. Girls had higher observed proportions of weight reduction than boys at each assessment. The most frequently reported barrier was limited parental time to

perform physical activity with the child. Inconsistent dietary support from grandparents was the second most frequently reported barrier, followed by refusal of the recommendations by the children. Early improvements may occur when motivation is high after the first consultation, while continued adherence requires sustained organization, supervision, family agreement and repeated professional support. Parents and other caregivers influence the child's food environment, opportunities for physical activity, routines and access to clinical follow-up.^[1,2] A systematic review found substantial variation in how parents are incorporated into adolescent obesity interventions and concluded that more detailed research is required to identify the most effective forms of parental participation.^[3,4]

The importance of family participation is also supported by clinical trial evidence. A randomized trial conducted in pediatric primary care found that family-based behavioral treatment improved weight-related outcomes in children and parents over longer-term follow-up. In the present study, limited parental time was the most commonly reported barrier.^[5,6] This finding suggests that simply advising families to exercise together may be insufficient when the recommendation does not consider work schedules, household responsibilities, neighborhood safety, transportation or the child's access to supervised activities. Future interventions could include flexible activity plans that children can perform safely without requiring continuous direct participation by a parent, short activity sessions incorporated into daily routines, remote follow-up, written weekly goals and involvement of several caregivers. The reported role of grandparents is also clinically relevant in families where and they should be included in obesity management.^[7,8]

CONCLUSION

Limited parental time for physical activity and inconsistent dietary support from grandparents were the most frequently reported barriers for management of pediatric obesity. These findings suggest that pediatric weight-management strategies should involve all regular caregivers, identify barriers repeatedly and provide practical support for maintaining adherence beyond the first months of treatment.

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