CHARACTERIZATION OF ADHERENCE TO FOLLOW-UP AND THERAPEUTICAL OUTCOMES IN A LARGE COHORT OF 1300 PATIENTS WITH OBESITY VISITED IN A SPECIALIZED TERTIARY CARE CENTER

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Introduction:
- Adherence to follow-up in children and adolescents with obesity is insufficiently characterized, but is a key factor for successful therapeutic outcome in these patients. Limited data on this facet of obesity management are available in the literature.

Objectives:
- To analyze the adherence to scheduled visits, the drop-out rate and the anthropometric, metabolic and behavioural outcomes after therapeutic intervention in a large cohort of children and adolescents with obesity in a specialized tertiary care unit.

Patients and Methods:
- A retrospective, observational study was conducted on 1300 children and adolescents with obesity (47.2% females; 53.3% prepubertal; 75.8% Caucasian; mean age: 10.46 ± 3.28 years, BMI: 4.01 ± 1.49 SDS) undergoing an intervention program based on nutritional counselling, physical activity and behavioral therapy.
- Drop-out rate and time from start to drop-out, as well as changes in feeding pattern and physical activity were recorded.
- Paired comparison of BMI-SDS, blood glucose, uric acid, lipoprotein, triglyceride levels and HOMA index from baseline (B) to the end of follow-up (E) were performed, considering ethnicity, sex and pubertal status.

Results:
- Mean follow-up time was 1.59 ± 1.60 years, with a high drop-out rate (11.2% after first evaluation and 32.5% after getting the results of complementary examinations [second visit]) (Figure 1).
  - Drop-out rate was higher in male (X²=14.70; p<0.05), prepubertal (X²=6.39; p<0.05) and Latino patients (X²=2.89; p=0.001) and highest during the first 6 months.
  - Among those who abandoned follow-up, 84.1% showed no fulfillment of clinical recommendations in their previous visit, whereas 10.5% had clinical improvement.

- Unscheduled eating, compulsive eating pace and lack of physical activity significantly decreased (p<0.001 each) from B (prevalence 81.9%, 74.0% and 74.7%, respectively) to E (57.2%, 47.3% and 49.8%) (Figure 2).

- BMI-SDS at E was +3.59 ± 1.87 SDS, showing a decrease in -0.37 ± 1.25 SDS from B (p<0.001), mainly in the first year, with a partial recovery in the second year and further stabilization. The decrease in BMI-SDS was greater in males and prepubertals (p<0.01 and p<0.001 vs. females and pubertals, respectively) (Figure 3).

- Metabolic profile both at B and E was available in 451 patients:
  - Impaired glucose tolerance prevalence decreased from 9.3% at B to 3.5% at E (p<0.001).
  - HDL levels increased, whereas HOMA index, LDL, uric acid and triglyceride levels decreased from B to E (p<0.01 for all).
  - There was a significant correlation between the degree of BMI-SDS reduction and every metabolic change (p<0.01).

Conclusions:
- Therapeutic outcomes in childhood and adolescent obesity are determined by follow-up adherence; showing a high drop-out rate, particularly in the first 6 months.
- Metabolic and behavioral improvement can be achieved even with limited BMI reduction, but its intensity is related to the degree of weight loss.

The authors have nothing to disclose

Figure 1: Follow-up characterization.

Figure 2: Behavioural features at baseline (B) and at the end of follow-up (E).

Figure 3: Mean BMI-SDS in the cohort throughout the follow-up period.