Efficacy of the treatment for childhood obesity in specialist care – age over 10 years at baseline and acanthosis nigricans predict a worse outcome

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BACKGROUND

Treatment of pediatric obesity is challenging and data on the long-term efficacy of pediatric obesity treatment are insufficient.

OBJECTIVE

We wanted to evaluate the efficacy of pediatric obesity treatment in specialist care and to find out factors, which have a major impact on the outcome.

METHODS

The data of this longitudinal register-based study was derived from the patient records of 654 children (girls n = 302, 46%) aged 2 to 18 years treated for obesity between 2005 and 2012 in three pediatric clinics covering whole Eastern Finland. BMI-SDS based on the national growth references (1), was recorded one year before the treatment, at baseline, and over a 3-year follow-up. The change in BMI-SDS and potential factors influencing the outcome (age and BMI-SDS at baseline, sex, presence of acanthosis nigricans (AN), psychiatric disturbances, parental obesity, motivation for treatment, and adherence to the protocol) were explored with mixed model analyses.

RESULTS

BMI-SDS increased during the year before baseline (mean difference 0.13 [SD 0.14]; p<0.001), and decreased during follow-up (at 0.5 year -0.07 [0.01]; at 1 year -0.10 [0.01]; at 2 years -0.09 [0.02], for all p < 0.001, and at 3 years -0.06 [0.02], p = 0.005). The presence of AN or age ≥10 years at baseline attenuated the treatment outcome and the long-term outcome was negligible. Children aged < 10 years at baseline and those without AN had a significant and long-lasting decrease in BMI-SDS (at 3 years -0.27 [0.04], p<0.001 and -0.14 [0.04], p<0.001, respectively). In addition, motivation for treatment, adherence to the protocol, and high BMI-SDS at baseline positively affected the outcome. On the other hand, sex, psychiatric disturbances, or parental obesity had no impact on it.

CONCLUSIONS

Treatment of pediatric obesity is most effective when started at a younger age. The association of AN with a poor treatment outcome suggests a link to insulin resistance.

REFERENCE