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## POSTER ABSTRACT

### **Obesity in children and adolescents: Empowering families through engagement of specialist and municipalities.**

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**Introduction:** Obesity in children and adolescents are increasing worldwide with a parallel increase in the risk of developing severe psychosocial problems, type 2 diabetes, non-alcoholic fatty liver disease, hypertension, and in adulthood overt cardiovascular disease, cancer and premature death.

In Denmark 3% of children (9-13 yrs.) and 7% of adolescents (16-24 yrs.) are considered obese and it is essential to prevent and treat obesity in order to attenuate the development of obesity-related diseases.

**Theory and Methods:** Obesity is defined as a body mass index (BMI=kg/m<sup>2</sup>) above the 99th percentile for age and sex, or an iso-BMI > 30 kg/m<sup>2</sup>.

We identified 201 children age 3-17 yrs. with obesity in our outpatient clinic. The children and their families (aka patients) were included from January 2014 to December 2017 and they were referred from general practitioners and healthcare providers in the municipalities of Randers, other hospital departments, or as self-directed to our clinic.

Each patient received an individual treatment plan according to the guidelines as described in the Holbaek-method. This treatment plan describes in a very structured and detailed manner the number of daily meals, contents of the meals, recommendations for grocery shopping, amount and type of activity, screen time, amount of weekly sweetened beverages, candy, chips, and daily fruit.

After initial screening the patients were followed-up as a joint-venture between healthcare providers in their local community/municipality and the department of pediatrics.

The patients were supported by their healthcare provider in their local community/municipality 4-5 times each year, where they were encouraged to comply to their individual treatment plan and body weight, height, waist and hip circumference, and bioimpedance were assessed. The patients were invited to the department of pediatrics once yearly where their body weight, height, waist, hip, BMI, and bioimpedance were assessed. In addition, total body fat and lean body mass was measured by a DEXA-scan. Blood samples were drawn to measure liver enzymes, thyroid function, HbA1c, fasting blood glucose, blood lipids, and electrolytes including urea. Quality of life was examined by visual analogue scales.

Our criteria of success was, that at least 65% patients had obtained a reduction in z-score BMI after 2 years and/or that 90% of the patients performed exercise on a regular basis (several times each week).

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**Results:** All 201 patients have completed their participation in the project and data analyses are pending.

**Conclusion:** We propose that this trial will assist us in the development of new knowledge in order to empower families and thereby provide better strategies to engage communities and understand, treat, and prevent obesity in children.

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**Keywords:** obesity; empowering

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