

## Body-composition in Fussy-Eating Children, with and without Neurodevelopmental Disorders, and their Parents, following a Taste-Education-Intervention

Sigrun Thorsteinsdottir <sup>1,3</sup>, Ragnar Bjarnason <sup>2,3</sup>, Helga G. Eliasdottir <sup>1</sup>, Anna S. Olafsdottir <sup>1</sup>

<sup>1</sup>Faculty of Health Promotion, Sport and Leisure Studies, School of Education, University of Iceland,

<sup>2</sup>Faculty of Medicine, School of Health Sciences, University of Iceland, <sup>3</sup>Department of Pediatrics, National University Hospital, Iceland

\* Correspondence: sthorsteinsdottir@hi.is; Tel.: +354-7705000

**Introduction:** Fussy eaters may have an increased risk of becoming overweight or obese as adolescents, with fussy eating and weight status also correlating with neurodevelopmental disorders (NDs) such as autism spectrum disorder (ASD) and attention deficit/hyperactivity disorder (ADHD). Further, maternal and children's weight status relationships are well-established.

**Methods:** In this study, we analyzed the body composition of parent-child dyads using bioelectrical impedance analysis (BIA). Fifty-one children aged 8–12 years, with an ND ( $n = 18$ ) and without ( $n = 33$ ), and their parents, participated in a 7-week food-based Taste Education Intervention with 6-months follow-up. The paired  $t$ -test was used to compare differences in body composition based on children's ND status.

**Results:** In logistic regression analysis, odds of children being in the overweight/obese or overfat/obese categories increased by a factor of 9.1 and 10.6, respectively, when having NDs, adjusting for parents' BMI (body mass index) or fat percentage (FAT%). Children with NDs and their parents had significantly higher mean BMI-SDS (BMI standard deviation score) and FAT% at pre-intervention than children without NDs and their parents. Mean BMI-SDS and FAT% lowered significantly between time points for children with NDs and their parents but not for children without NDs or their parents.

**Conclusions:** The findings underline the need for additional exploration into the relationships between children's and parents' body composition based on children's ND status.