

Feasibility of the ToyBox-Scotland obesity prevention intervention in preschools: Results of a cluster randomised controlled trial

Stephen Malden¹, John J. Reilly¹, Ann-Marie Gibson¹, Farid Bardid^{2,3}, Marieke De Craemer³, Odysseas Androutsos⁴, Yannis Manios⁴, Carolyn Summerbell⁵, Greet Cardon³, Adrienne R. Hughes¹

¹ *Physical Activity for Health Group, School of Psychological Sciences & Health, University of Strathclyde, Glasgow, UK*

² *School of Education, University of Strathclyde, Glasgow, UK*

³ *Department of Movement and Sports Sciences, Ghent University, Ghent, Belgium*

⁴ *Department of Nutrition and Dietetics, School of Health Science and Education, Harokopio University, Athens, Greece*

⁵ *Department of Sport and Exercise Sciences, Durham University, Durham, UK*

Abstract

Introduction: The ToyBox-Scotland intervention is an 18-week practitioner-led programme that aims to increase physical activity, reduce sedentary behaviour, and promote healthy snacking and water consumption. We adapted the original Toybox intervention (Manios et al. 2012) using a co-production approach for implementation in Scottish preschools. Examining the feasibility and acceptability of effective public health interventions is critical to ensure success can be translated from one context to another. Therefore, this study aimed to evaluate the feasibility and acceptability of implementing the adapted ToyBox intervention in Scottish preschools.

Methods: A feasibility cluster randomised controlled trial was conducted involving six preschools in Glasgow, randomly assigned to the intervention or usual-care control group. Participants were 3-5 year old children and their parents. Of interest for this feasibility study were parameters such as recruitment and retention rates, and SDs of outcome measures to inform a full scale trial (namely physical activity, sleep and sedentary time via accelerometry, body composition via bioelectrical impedance analysis (BIA), and measures of diet and home screen time via parental questionnaire). Process evaluation involved focus groups with practitioners, interviews with participating parents and pre/post practitioner logbooks and parental questionnaires.

Results: The overall trial recruitment rate was 18%. 36 children (16 girls) provided at least one valid measurement at baseline and follow-up (attrition rate = 16.6%). Anthropometric measures were acceptable and feasible. Parental questionnaire response rates were low (20%). 61% and 27% of participants provided valid accelerometer data for baseline only, and for baseline and follow-up respectively. A process evaluation has recently been conducted and results will be presented at the congress.

Conclusion: Overall, the intervention was feasible and acceptable in Scottish preschools. Process evaluation results will help identify ways in which recruitment of preschools, and recruitment and retention of trial participants-particularly regarding accelerometry compliance, can be maximised in Scottish preschools. Such information will be useful for the development of a future full-scale trial.