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Weight outcomes and attendance rates: the effect of introducing group workshops in a tertiary paediatric dietitian-led weight management clinic

Julia Haydon^{1,2,*}, Kerryn Chisolm^{1,2}, Alicia Grunseit^{1,2}, Shirley Alexander¹

¹ Department of Weight Management Services, The Children's Hospital at Westmead, Westmead, New South Wales, Australia

² Nutrition and Dietetics Department, The Children's Hospital at Westmead, Westmead, New South Wales, Australia

Background: This study aims to evaluate the effect of group workshops in a dietitian-led weight management program on body mass index (BMI) variables and clinic attendance rates.

Methods: The dietitian-led program at The Children's Hospital at Westmead was revised in 2016 from individual-only appointments to include 3 workshops and 6 individual appointments over 12 months. Patients/families were required to attend at least 2 out of 3 workshops to qualify for individual appointments. A retrospective audit of patient data was conducted between March 2016 and September 2017. A total of 95 families were referred to the service (67 child, 28 adolescent) and 57 (39 child, 18 adolescent) attended the group workshops. 44 families (29 child, 15 adolescent) qualified for individual sessions, 14 families (8 child, 6 adolescent) withdrew, 22 families (17 child, 5 adolescent) are yet to complete and 8 (4 child, 4 adolescent) have completed the program. Anthropometric measures (weight, height, and calculated BMI, BMI z scores (zBMI) and percentage above 95th percentile (%BMI_{p95})) were obtained at the group workshop and individual appointments. Ongoing data will be collected as participants' progress through the program.

Results: Significant reductions in mean zBMI were seen in completers of both groups: -0.42 (95% CI: 0.03 to 0.81; $p=0.003$) and -0.22 (95% CI: -0.17 to 0.61; $p>0.05$) for adolescents and children, respectively. Changes in mean %BMI_{p95} were also significant with up to 12.7% (6.18 to 19.19%; $p=0.0001$) and 8.3% (1.83 to 14.83; $p=0.008$) for adolescents and children, respectively.

Conclusion: Significant improvements in anthropometric measurements were seen in all patients, with greater changes seen in adolescents. The new program format reduced attrition rates. Addition of workshops may be a useful tool to better engage and improve participants' attendance rates.

<https://doi.org/10.1016/j.orcp.2018.11.202>



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Ulna length for height in children's weight status assessment

Joanne M. Henderson^{1,2,*}, Sarah Garnett^{3,4}, Shirley M. Alexander^{1,5}, Pieter VanDam²

¹ Weight Management, The Childrens Hospital at Westmead, Westmead, NSW, Australia

² School of Medicine, The University of Tasmania, Hobart, Tasmania, Australia

³ Institute of Endocrinology and Diabetes, The Children's Hospital at Westmead, Westmead, NSW, Australia

⁴ Discipline Paediatrics and Child Health, The University of Sydney, Sydney, NSW, Australia

⁵ Auburn School, The University of Notre Dame, Sydney, NSW, Australia

Purpose: Assessing a child's weight status is challenging when no clinical alternative to standing height measurement is available. Height from ulna length can be calculated from reliable and reproducible linear regression formula however, its effect on weight status has not been explored.

The study aimed to ascertain if Body Mass Index, determined by a calculation of height from ulna length, was reliable in identifying overweight and obese children.

Methods: In this exploratory study of 20 participants aged 2–16 years, weight status from the control, BMI from standing height was compared to BMI with height determined from ulna length, using two different methods. Method A arm extended or method B arm across chest, measured with a disposable paper measuring tape.

Results: Intra and inter reliability was high on both ulna measures with intraclass correlation (0.99). Both techniques provided similar results, respectively between mean difference in height (0.055 m, $P<0.001$ and 0.051 m, $P=0.001$) and BMI (-1.65 kg/m², $P<0.001$, and -1.51 kg/m², $P<0.001$). In assessment of weight status for overweight and obese, there was 100% agreement between weight status determined by standing height and weight status determined by ulna length.

Conclusions: Ulna length, measured with paper tape, provides a convenient, simple alternative method of height measurement, viable for use in assessing weight status for overweight and obesity in children. The method can be reproduced in most clinical areas and with those who have physical limitations or infectious risk where a standing height cannot be obtained. It should not be used to replace standing height when available, but can be used to reduce barriers to assessment of weight status on children, in health care facilities.

These findings prove a reliable method for assessment of weight status in children for overweight and obesity in the absence of standing height, however limited numbers suggest the need for larger studies.

<https://doi.org/10.1016/j.orcp.2018.11.203>

