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A prospective plan to investigate the roles of parental- and child-based self-determined motivation in family-oriented hospital-based therapies for childhood obesity

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There are many Childhood Obesity (CO) treatment programs, and much research into CO, but very few programs have directly investigated the role of motivation in the success of treatment outcomes. Self-determination theory (SDT) is a widely-used theory of human motivation, which focuses both on the *quality*, as well as the *quantity*, of a given individual's motivation.

The purpose of this study is to investigate the role of motivation on the efficacy of a clinical, hospital-based, family-orientated, group-based, CO intervention program. This study aims to determine parent and child motivation regarding weight loss, and to examine the relationships between motivational variables at both pre and post-intervention stages and how this may impact on post-intervention weight loss outcomes. We also aim to explore changes over the duration of the program in the children's motivation profile, and also the parent's motivation profile for their own, and their child's, weight loss.

The children and their families are participants in the Changes in Lifestyle are Successful in Partnership (CLASP) program at Princess Margaret Hospital for Children, in Western Australia. Parents and children are assessed for their regulatory capabilities and their motivation to adhere to the program's structure and recommendations. We will measure the children's and parents' perceptions of need



support and need satisfaction in relation to (a) their experiences with the CLASP support staff and (b) their experiences with each other in relation to their general supportive behaviour and their engagement in weight loss activities. Children and parents will also report their own weight loss motivation in line with SDT concepts, and parents will report their motivation for promoting their child's weight loss. The results of this study will form part of a larger study, and provide a greater understanding of the mechanisms that underpin the efficacy of tertiary childhood obesity intervention programs.

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Improvement in SF-36-derived health utility score with liraglutide 3.0 mg versus placebo over 3 years in prediabetes

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Objectives: Liraglutide 3.0 mg is a glucagon-like peptide-1 (GLP-1) analogue currently licensed for weight management in people with obesity (PWO), or overweight with a weight-related comorbidity. This analysis aimed to investigate the effects of liraglutide 3.0 mg ($n=1505$) versus placebo ($n=749$), added to a reduced calorie diet and increased physical activity, on health utility in PWO or overweight with comorbidity, over 3 years.

Methods: The study was a 3-year, randomised, double-blind, placebo-controlled, parallel-group, multi-centre, multinational trial (NCT01272219). Participants were ≥ 18 years with prediabetes (no type 2 diabetes) and either obesity ($\text{BMI} \geq 30 \text{ kg/m}^2$) or overweight ($\text{BMI} \geq 27 \text{ kg/m}^2$) with hypertension or dyslipidaemia. Health-related quality of life was assessed via the Short-Form 36v2 (SF-36) health survey, completed at baseline and 3 years. Health utility (Short-Form 6D; SF-6D) was scored directly from the SF-36 using a validated algorithm. As sensitivity analyses, SF-36 scores were mapped to the



EuroQoL-5D (EQ-5D) index and the SF-36 Physical (PCS) and Mental (MCS) Component Summary scores were analysed.

Results: At Week 160, individuals on liraglutide 3.0mg had greater weight loss from baseline ($-7.1 \pm 8.4\%$) compared with placebo ($-2.7 \pm 7.2\%$); estimated treatment difference (ETD) -4.3% [95%CI -4.9 ; -3.7], $p < 0.0001$. SF-6D score at baseline [mean (SD)] was 0.76 (0.11) and 0.75 (0.11), and at Week 160 change from baseline was 0.02 (0.12) and 0.01 (0.12) for liraglutide 3.0mg and placebo, respectively. At week 160 ETD was 0.014 [95%CI 0.002; 0.025], $p = 0.0182$. The EQ-5D score supported these findings, with a higher score for liraglutide 3.0mg versus placebo; ED 0.007 [95%CI: 0.002; 0.013], $p = 0.0116$. Change in SF-36 PCS score was significantly higher (better) at Week 160 compared with placebo: ETD 0.87 [95%CI 0.17; 1.58], $p = 0.0156$.

Conclusion: Liraglutide 3.0mg is associated with improved health utility compared with placebo for weight management in people with prediabetes over 3 years.

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Fathers' interest in participating in a healthy eating program – Preference for online and family-focused programs



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Background: In child obesity research and nutrition interventions that aim to reduce child obesity risk the specific inputs of fathers are under-represented. Yet studies that have included fathers suggest that they play a unique role in the feeding environment and child health outcomes. This study aimed to assess fathers' interest in participating in healthy eating programs and specifically to identify their preferred intervention focus and mode of delivery.

Methods: Recruitment of fathers was via a university email list and two community-based family

research cohorts. Fathers ($N = 436$) aged 37 ± 6 years (34% university educated; 89% living with child) of 2–5 year old children (mean age 3.5 ± 0.9 years, 53% boys) completed questions identifying their confidence and knowledge of healthy eating, willingness to participate in healthy eating programs, with focus on type and mode of delivery.

Results: Most fathers ($\geq 80\%$) knew what and how much their children should eat and were confident about providing healthy food. Interest was greater in learning about healthy eating for the child (67%) than themselves (51%). Fathers preferred a focus on the family (58%), compared to individual (32%), group (24%) or fathers-only (23%) programs. Perceived usefulness varied between online (45%), written information (28%), information DVD (28%), interactive social network (11%) and mobile phone (5%) programs. University educated fathers rated the online program and written information as more useful compared to fathers with no university degree ($p < 0.05$).

Conclusion: Successful access and engagement of fathers in child feeding interventions might increase via an online and family-focused program that focuses on learning about healthy eating for the child. This is in line with other research indicating that fathers prefer to be targeted in interventions to support their family, rather than undergoing a "self-help" program.

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Metabolic improvement from switching to saccharin or water following chronic consumption by rats of 10% sucrose solution



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High consumption of sugar-sweetened beverages (SSBs) is acknowledged as a risk factor for weight gain and metabolic disease. A common strategy for reducing this risk is to switch from consumption of SSBs to 'diet' beverages containing non-nutritive sweeteners (NNS). However, research on the effects of NNS is mixed: While a majority of studies indicate no harm, some animal and cross-sectional data suggest NNS confer *increased* risk of metabolic