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Does chronic treatment with a thiazolidinedione increase brown fat thermogenesis in humans?



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Increasing energy expenditure via brown adipose tissue (BAT) thermogenesis is a possible therapeutic strategy to treat obesity and its associated co-morbidities. The thiazolidinedione class of anti-hyperglycemic drugs increase BAT differentiation in pre-clinical experimental models and therefore potentially increase BAT thermogenic capacity. Thus, the aim of the study was to determine if pioglitazone treatment for 4 weeks increases BAT activity in response to acute cold exposure in humans. In a double-blinded, placebo-controlled, parallel design trial, 14 lean (BMI <25 kg/m²), un-medicated male participants who exercise <2 h per week and were free of overt cardiovascular and metabolic disease were randomised to receive placebo (lactose) or pioglitazone (45 mg/day) for 28 days. After unblinding in September 2016, this presentation will report the primary outcome

measure of the change in BAT activity in response to acute cold exposure, assessed before and after the interventions by measuring glucose uptake with ¹⁸F-fluorodeoxyglucose Positron Emission Tomography-Computerised Tomography (PET-CT). BAT activity will be measured in regions of supraclavicular adipose tissue with radiodensity corresponding to BAT and reported as maximum and mean standardised glucose uptake value (SUVmax and SUVmean). Energy expenditure, cardiovascular responses (blood pressure and heart rate), core temperature, blood glucose, plasma non-esterified fatty acids and plasma noradrenaline will also be reported basally and in response to acute cold exposure along with body composition before and after the intervention. Outcomes from the study will expand our understanding of human BAT physiology and inform the development of therapeutic approaches that target energy expenditure via BAT.

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Do Early Years' Educators foster positive body image in very young children?



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Over 1 000 000 Australian children <12 years spend on average 28 h/week in care. Early Years' Educators (EYE) are positioned to influence many aspects of children's wellbeing including nutrition, obesity and body image (BI) development. Evidence suggests BI concerns emerge in children as young as 3 years and maybe unintentionally transmitted through parents/caregivers, or by EYE.

This study explored the knowledge, attitudes and behaviours of EYE in relation to BI development of young children (2–3y). An online survey was developed and included adapted standardised measures of body appreciation, knowledge of BI development and feeding practices. This was completed by 187 EYE nationally.

EYE understood the concept of BI, and reported positive Body Appreciation Scores. They recognised their role in fostering positive BI of the young children they taught (83%) and reported confidence in their ability to access support in dealing with BI issues (67.4%), and 60% felt they had the capacity to understand BI concerns in young children. Knowledge scores were high (78% ± 8%), however, 32% of EYE believed they should judge when a child was