

Hypoventilation Syndrome (OHS) was detected in 8/46 (17.4%). Ventilation therapy was commenced in 36/46 (78.3%) including 5 patients who dis-engaged from OMS but continued OSA treatment. Despite clinical recommendation, 10 patients subsequently ceased ventilation therapy. Median ESS score pre-PSG was 7/24 (IQR 4–11) and at 12 months was 6/24 (IQR 4–9). Compared to previous data, PSG referrals increased (11.0% to 37.0%) whilst OSA diagnoses slightly decreased (86.4% to 77.0%).

Conclusions: The increased number of PSG referrals suggests that OMS now has a higher level of suspicion for co-morbid OSA. The high incidence of OSA diagnoses following referral to OMS suggests that severely obese patients should be screened for sleep-related symptoms in other healthcare settings. Future studies should focus on PSG referral thresholds and cost-effectiveness, and correlations between ESS scores, OSA treatment and concurrent weight loss.

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Program characteristics and patient outcomes: An update from the ACT health obesity management service



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Background: The ACT Health Obesity Management Service (OMS) has been providing comprehensive management of adults with severe obesity since 2014 [1]. The OMS offers medically-led allied health support and intensive interventions including Very Low Energy Diets (VLEDs), pharmacotherapy and bariatric surgery. Mandatory group education sessions prior to individual case management were introduced in 2016. This study aims to determine current program characteristics and patient outcomes and to compare with previously reported OMS data [2].

Methodology: A retrospective chart audit was performed on new OMS patients who presented between July 2016 and June 2017. Inclusion criteria comprised patients who underwent an initial medical review. Existing OMS patients and those who did not attend an initial medical review were excluded. Patient demographics, service engagement and anthropometric data were collated through to June 2018.

Results: 162 patients were identified. Mean age was 45.1 years (range 17–72). Females outnumbered males (73.5%). Median weight was 135.5 kg (IQR 121.8–150.8). Median BMI was 48.5 kg/m² (IQR 43.3–53.5). 59 patients (36.4%) discontinued after initial medical review. Reasons for attrition included not meeting OMS eligibility criteria, self-discharge and non-engagement. Of those who engaged with the program ($n = 103$), median weight change was -4.0 kg (IQR -9.6 – 0.0) and median percentage weight change was -3.1% (IQR -7.0 – 0.0). 27 patients (26.2%) completed

VLED, 16 (15.5%) trialled one or more medications and three (2.9%) underwent privately funded bariatric surgery. A total of 37 patients (35.9%) achieved clinically significant weight loss ($\geq 5\%$ reduction in weight) compared to 20.4% observed in a previous OMS study [2].

Conclusions: Favourable differences were observed in all outcomes when compared to previously reportedly OMS data [2]. Recent changes in OMS service provision including mandatory education sessions and greater utilisation of intensive interventions may account for the increased proportion of patients achieving clinically significant weight loss.

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Electroacupuncture combined with mindfulness meditation for weight management: a randomised sham controlled trial protocol



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Background: Electroacupuncture (EA) has been used in clinical practice for weight reduction [1] and mindfulness meditation (MM) can potentially change eating behaviours in weight-loss management [2]. However, there are no published studies on the use of the combined therapy (EA + MM). This study aims to clinically evaluate the add-on effect of EA with MM for weight management.

Methods: This is a 3-armed randomised sham controlled trial. We target a sample size of 165 adults aged 18–60, with BMI between 25–39.99 and no severe medical complications. This trial consists of a 2-week run-in period, 12 weekly treatment sessions and an 8 week follow-up period. Participants will be randomised into one of the three groups: (i) EA + MM group, (ii) sham EA + MM group, and (iii) EA only group. EA treatment involves in needling 8 acupuncture points and allow for 30 min electrostimulation with dense-disperse wave at a frequency of 33–100 Hz and 48 mA peak current intensity. Sham EA represents needling to 8 non-acupuncture points which is approximately 1 cm away from the acupuncture points, with sham electrostimulation which has no actual current going through the body but presents the same as the real electrostimulation. MM involves in self-practising a 10 mins pre-recorded MM instruction after EA or sham EA treatment, daily practice is also required. Outcome measurements, including body weight, BMI, Waist and hip ratio, psychological influence to eating behaviour and weight related quality of life, will be measured at baseline, every 3 weeks during treatment period and 3 more during follow-up period.

Conclusion: This study provides a new approach for weight management with multi-disciplinary components. We can assess the add-on effect of these co-interventions and the feasibility of the treatment protocol by evaluating the change of weight-related measurements.

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The acceptability, effectiveness, and impact of different models of care for paediatric weight management services: a concurrent mixed-methods study



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Introduction: Paediatric obesity is a serious, but clinically neglected, chronic health problem. Excess weight problems are rarely managed when children attend clinical services. It is recommended that obesity treatment uses a “chronic-care” approach to management, with different types and intensity of treatment dependent upon severity of obesity. There are several new secondary and tertiary weight management services being implemented within New South Wales (NSW), Australia in 2017/2018 with differing models of care. This study will ascertain what factors affect acceptability, reach, and participation, as well as measure the clinical effectiveness of these services.

Methods: This is an acceptability and effectiveness study building upon existing and planned secondary and tertiary level service delivery in several health districts. This study will recruit participants from seven different paediatric weight management services (PWMS) across five Local Health Districts in NSW, Australia. Using a mixed-methods approach we will document a range of process, impact and clinical outcome measures in order to better understand the context and the effectiveness of each PWMS model. The project development and implementation is guided by the Theoretical Domains Framework. Participants will include parents of children less than 18 years of age attending PWMS, clinicians working as part of PWMS and health service managers. Data will

be captured using a combination of anthropometric measures, questionnaires, one-on-one semi-structured interviews and focus groups.

Findings: Barriers and enablers to the development and commencement of this study protocol will be presented. Preliminary data on the views of parents of paediatric weight management clinics will also be presented.

Discussion: Results from this study will assess the acceptability and effectiveness of different models of care for paediatric weight management. Such information is required to inform long-term sustainability and scalability of secondary and tertiary care services to the large number of families with children above a healthy weight.

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Comparing two exercise training doses on cardiac autonomic function in adults with overweight/obesity and type 2 diabetes: a randomised controlled trial



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Introduction: Compromised cardiac autonomic function (CAF) is an independent predictor of cardiovascular disease and all-cause mortality in adults with T2D. High-intensity interval training (HIIT) has been shown to improve CAF, but it's unclear whether a lower volume of training produces equivalent effects. We aimed to compare the effects of low-volume combined aerobic and resistance HIIT (C-HIIT) with combined aerobic and resistance moderate intensity continuous training (C-MICT) on CAF in adults with overweight/obesity and T2D following 8-weeks of supervised training and 10-months of home-based training.

Methods: 35 individuals (age 59.5 ± 8.7 y, BMI 34.0 ± 7.7 kg/m², 63% male) diagnosed with T2D (mean HbA_{1c} 7.6 ± 1.1 %) were randomly allocated to 8-weeks of either supervised C-HIIT (1x4 min high-intensity aerobic @ 85–95% HRpeak plus resistance training, 3 times/week), supervised C-MICT (52.5 min @ 55–65% HRpeak, 2 times/week; 22.5 min @ 55–65% HRpeak plus resistance training, 2 times/week) or control (usual care). Participants then completed 10-months of home-based training (same protocol), with once monthly supervised sessions. CAF was quantified using heart rate variability (HRV), and heart rate recovery (HRR) following a maximal exercise stress test (EST).

Results: There were no significant differences in any CAF variables between C-HIIT and C-MICT at either time point. Both C-HIIT and C-MICT significantly increased absolute change in HR at 2 min post-EST (36 ± 6.0 bpm to 43.1 ± 6.8 bpm, $p = .012$; 38 ± 10.4 bpm to 43 ± 9.3 bpm, $p = .039$ respectively) compared to control after 8 weeks. There was a significant effect of time for mean RR interval length ($p = .004$) and mean HR ($p = .004$) after 12-months, but no significant differences between groups.

Conclusion: Exercise training improved CAF in adults with T2D following 8-weeks of supervised training and 10-months of home-based training. There were no differences in improvements between C-HIIT and C-MICT, despite C-HIIT requiring one third of the time commitment. Therefore, C-HIIT is a time efficient alternative to C-MICT to improve CAF in T2D.

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