

A weight management in-patient programme changes pain and physical function

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Objectives Musculoskeletal (MSK) pain is a commonly reported obesity related co-morbidity. Our Weight Management Service (WMS) is a national Tier 3 referral centre for the treatment of adults with severe obesity. As part of our service we deliver a 6 week weight management in-patient programme (WMIPP). This WMIPP involves a 1,100kcal liquid diet, functional rehabilitation and psychology interventions. This study evaluates the impact of the WMIPP on MSK pain and physical function.

Methods A retrospective analysis of the WMIPP database was undertaken. Post programme changes in weight, pain intensity [(numerical rating scale (NRS)], physical function [6-minuts walking test], quality of life (QOL) measured in EQ-5D, sleep hours of patient and vital signs were established using the Wilcoxon Signed rank test and paired t-test. Measures of clinically significant change (CSC) in NRS scores (>30% change) were calculated. Missing data were not adjusted for.

Results From June 2014 to Jan 2019, 72 patients completed the WMIPP. The mean age of completed patients was 48.6 ± 11 years and 60 % (43/72) were female. Baseline BMI was 59.1 ± 11 kg/m². Except one patient, other patients were classified as Class III obese (BMI ≥ 40 kg/m²)¹. Post programme significant weight loss was achieved ($p < 0.001$). No patients gained weight, 87.5 % (63/72) of patients lost $\geq 5\%$ body weight, 12.5 % (9/72) were weight stable (no more than 5% weight loss). Neck circumstances became smaller ($p < 0.001$) and blood pressure were decreased ($p < 0.001$ for Systolic and $p < 0.013$ for Diastolic blood pressure). There was no statistically significant change in the heart rate. The mean worst NRS score at baseline in patients who had knee pain was 6.72 ± 2.6 and that in Low back pain (LBP) patients was 7.47 ± 2.2 . There were significant changes in LBP ($p < 0.001$) and knee pain ($p < 0.017$) NRS scores. Significant changes were also seen in the distance as a result of 6-minutes walking test ($p < 0.001$), QOL score ($p < 0.001$) and patient's sleep hours ($p < 0.005$). CSC was seen in 40% (18/45) of patients with LBP and 27% (12/44) with knee pain.

Conclusions Pain, function, QOL and sleep hours of patient were improved after WMIPP. The reduction in pain scores is very encouraging and highlights the holistic value of WMIPPs. Reducing pain levels has the potential to influence outcomes into the longer term.

References 1: World Health Organization (1995) Physical status: the use and interpretation of anthropometry. Report of a WHO Expert Committee, WHO technical report series 854.