Weight, aerobic fitness and health related quality of life in morbidly obese patients changing their lifestyle: a 1-year follow-up

Jepsen R., RN; MSc, PhD student1; Aadland E, MSc, PhD student1; Andersen JR, RN, PhD1,2; Natvig GK, RN, Professor1,2

Introduction

Improved health and quality of life are desired outcomes in health programmes. Our aim was to study whether change in body mass index (BMI) and aerobic fitness predicted change in health related quality of life (HRQoL) in morbidly obese patients in the first year of a 2-year lifestyle treatment programme. The intervention combined individually tailored in- and outdoor physical activity and diet based on the Nordic Nutrition Recommendations with cognitive behavioural therapy. It was delivered by a multidisciplinary team of health personnel in a rehabilitation centre in Western Norway. During the first year groups of up to 12 patients spent three in-patient periods in the centre, starting with six weeks and followed by two stays of three weeks. Most of the activities were taking place in groups in order to mobilise the benefits of social support.

Methods

49 morbidly obese patients (mean (sd) age 43.5 (9.5) years and BMI 42.0 (5.9) kg/m² (76% women) were consecutively enrolled in the study at admission in the rehabilitation centre. At baseline and one year later, after the three in-patient and two home periods, aerobic fitness was tested with a maximal symptom limited treadmill test (VO2 max) and HRQoL with the Short Form Health Survey 36 (SF-36) and the Obesity-related Problems Scale (OP).

Results

35 patients (74% women) participated in the 1-year data collection. BMI (n =35), aerobic fitness (n =26), the physical sum score of SF-36 (n =33) and OP (n =33) showed statistically significant improvements. Pearson’s correlation coefficient revealed that reduction of BMI was correlated with improvements in OP=0.47, p=0.006. No other significant correlations were found.

Table 1 Mean scores (sd) of body mass index, aerobic fitness and health related quality of life at baseline and 1-year follow-up

<table>
<thead>
<tr>
<th>Variable</th>
<th>Baseline</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Mass Index (kg/m²)</td>
<td>42.0 (5.9)</td>
<td>38.5 (5.3)</td>
</tr>
<tr>
<td>VO2 max, time to exhaustion (sec)</td>
<td>528 (143)</td>
<td>621 (153)</td>
</tr>
<tr>
<td>SF-36 Physical Sum Score</td>
<td>45.4 (9.8)</td>
<td>51.0 (8.1)</td>
</tr>
<tr>
<td>SF-36 Mental Sum Score</td>
<td>48.3 (10.2)</td>
<td>48.1 (13.6)</td>
</tr>
<tr>
<td>Obesity-related Problems Scale</td>
<td>44.6 (26.3)</td>
<td>31.8 (28.0)</td>
</tr>
</tbody>
</table>

Conclusion

Weight loss, but not aerobic fitness, predicted improvement in HRQoL in morbidly obese patients changing their lifestyle.

References


Acknowledgements

Thanks to the participants.
We are grateful to the staff at the Red Cross Haugland Rehabilitation Centre for their help with the data collection.
Research funding has been received from Sogn og Fjordane University College.

Contact

Randi Jepsen randi.jepsen@hisf.no

Conflict of interest: None disclosed