Health-Related Quality of Life in Subgroups of a US-based, Stratified Sample of People with Obesity

Background and Objectives
- Obesity has been consistently linked with lower health-related quality of life in the physical, emotional, and psychosocial domains. Severe obesity is associated with the poorest quality of life.1
- Existing literature-based studies (IWQOL-Lite) on obesity-specific quality of life measures to assess the impact of obesity on health-related quality of life (HRQoL), and the SF-12, a general measure of HRQoL.1
- The ACTION (Awareness, Care, and Treatment in Obesity management) study assessed IWQOL-Lite using these two measures, among a large nationally representative sample of people with obesity (PwO) allowing for examination of HRQOL among subgroups.

Study design
- This study consisted of a cross-sectional, US-based, stratified sampling of 3,008 adult PwO who completed online surveys.
- Inclusion criteria included BMI = 30 kg/m² based on self-reported height and weight.
- The survey assessed attitudes, experiences, and behaviors associated with weight and employed obesity management and included the IWQOL-Lite and SF-12.
- Respondents were recruited through online panels.
- The study and its institutional Review Board approved.

Health-Related Quality of Life Measures
- IWQOL-Lite
  - The IWQOL-Lite is a validated, 31-item, self-report measure of obesity-specific quality of life that provides:
    - A total score and scores for five subscales: physical function, self-esteem, social function, sexual function, and work.
  - Scores range from 0 to 100 (higher scores indicating greater impairment).
  - There are cut-offs for severity of baseline impairment: none, mild, moderate, severe.
- SF-12
  - The SF-12 is a 12-item, validated, self-report survey measure that is used in evaluating an individual's health status.
  - The general population norm score = 50.
  - In addition to 8 subscales, there are Physical Component Summary Score (PCS) and Mental Component Summary Score (MCS).

Statistical Analysis
- Respondent-level weights were applied to the PwO sample to demographic targets for age, ethnicity, race and Hispanic descent, gender, and US Region based on the 2010 US Census.
- Sample size per group was calculated.
- Statistical significance was set at p<0.05, using 2-tailed tests. Statistical significance test was based on linear contrasts displayed in standard values, their placement identifies the greater of the two values, while the letter references the comparison group.

Table 1. PwO Sample Characteristics (Unweighted %)

<table>
<thead>
<tr>
<th>People with Obesity</th>
<th>Total (n=3,008)</th>
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<tbody>
<tr>
<td>Sex, % (%)</td>
<td>Male 1,778 (40)</td>
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<td>Female 1,332 (54)</td>
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<tr>
<td>Age, % (%)</td>
<td>Mean (+/− std. dev.) 54 (14)</td>
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<td>65 years and over, % (%) 94 (31)</td>
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<tr>
<td>Race, % (%)</td>
<td>White 2,542 (84)</td>
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<td></td>
<td>Black or African American 539 (10)</td>
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<tr>
<td>Other</td>
<td>176 (6)</td>
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<tr>
<td>Body mass index, mean (+/− std. dev. kg/m²)</td>
<td>27 (6)</td>
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Obesity Class, No. (%) Score
- Class II (BMI 30-34.9) 1,304 (43)
- Class III (BMI 35-38.9) 896 (30)
- Class IV (BMI ≥ 39) 808 (27)

Conclusions
- In a nationally representative US sample of people with obesity, differences were found in the obesity-specific and general measures of health-related quality of life based on gender, age, and care-seeking behaviors.
- Future studies should explore how these differences might affect obesity care.

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References
5. The IWQOL-Lite was developed to be used to monitor changes in health-related quality of life (HRQoL) over time. The IWQOL-Lite is a 31-item, self-rated, quality-of-life questionnaire that assesses the impact of obesity on health-related quality of life (HRQoL).
6. The SF-12 is a 12-item questionnaire, which assesses the impact of obesity on health-related quality of life in six separate scales. The SF-12 is a self-administered, online, and weight-based tool that allows for the assessment of HRQoL.

IWQOL Scores
- The IWQOL-Lite Total and Subscale Scores in the Overall PwO Population and Across BMI Subclasses
- Mean IWQOL-Lite score (Total) of 48.22 indicated severe impairment in PwO, on average.

Figure 1. IWQOL-Lite Total and Subscale Scores in the Overall PwO Population and Across BMI Subclasses

Conclusions
- Female PwO demonstrated lower Total IWQOL-Lite scores than Male PwO (66.25 vs. 71.21) and lower SF-12 MCS (46.11 vs. 48.16).
- IWQOL-Lite Total and SF-12 PCS and MCS Scores – Gender Differences
- PwO ≥65 years were more likely to have lower IWQOL-Lite compared to PwO who had not (51.52 vs. 40.71); however, they had lower PCS (44.00 vs. 48.02).

Figure 2A. SF-12 Quality of Life Domain Scores (Norm-Based Scoring) (NBS) Algorithms in the Overall PwO Population and Across BMI Subclasses

Conclusions
- Significant differences were found between the baseline scores and the post-six months scores in female PwO who had not (51.52 vs. 40.71); however, they had lower PCS (44.00 vs. 48.02).

Figure 2B. SF-12 Quality of Life Physical Composite Summary (PCS) and Mental Composite Summary (MCS) Scores in the Overall PwO Population and Across BMI Subclasses

Conclusions
- No meaningful differences among racial/ethnic subgroups were found for Total IWQOL-Lite scores, SF-12 PCS, or SF-12 MCS.