Reviewer’s report

**Title:** Correlates of quality of life of overweight patients: a pharmacy-based cross-sectional survey

**Version:** 1  **Date:** 31 December 2008

**Reviewer:** Thomas von Lengerke

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This study reports data from a convenience sample – with an unreported and possibly unknown response rate - of pharmacy customers with a BMI >= 28 in the Rhone-Alpes Region (France). Reported data focus on obesity-specific quality of life. While being of potential interest to audiences with related research interests, to my assessment this manuscript is undecided as to what it wants (see my remark 1.). Also, the outcome instrument (OSQOL) is very imperfect in terms of psychosocial QOL (remark 2). Finally, the limitations associated with studying pharmacy customers should be discussed - not only the strengths of this design (remark 3). Also, there are a number of minor essential and discretionary revisions I suggest (remarks 4 + following).

**Major Compulsory Revisions**

1. To me, this manuscript is undecided as to what it wants. Does it aim to identify correlates of OSQOL in a sample of adults with excess body weight, while adjusting for BMI? Or does it aim to explain existing differences in OSQOL across BMI-groups by sociodemographic/-economic factors, behavioral factors, and (co-)morbidities? If it is the former, then one comes to the description of the results the authors offer in the respective section of their abstract – and, to be honest, in my view these variations of OSQOL by age, SES, and gender do not sufficiently add new insights to our field of inquiry. However, I suppose that the authors’ “real” aim in fact is a different one - namely to explain existing OSQOL-differences across BMI-groups by third variables, i.e. sociodemographic, socioeconomic, and behavioral factors, and [co-]morbidities. For instance, regarding Table 2 the authors state that the “influence of excess weight on psychological and relational dimensions was also significant, with 22.3 % feeling ill-at-ease due to excess weight and 19.6 % feeling attacked when people talked about their weight” (p. 8). Clearly, this refers to OSQOL-differences by BMI (even though surprisingly, such differences are not even reported in the table), which should then be explained by other variables. Also, in the Discussion the authors state that the result that physical OSQOL declined with BMI “can be partly explained by the osteo-articular and respiratory consequences of excess weight” (p. 10). This again points to the aim of explaining differences across BMI-groups, which however HAS not been done even though it COULD have been done with the present data. As one final example, later in the Discussion it’s said that “Regular exercising provides physical and psychological well-being to patients regardless of the severity of their excess weight ... This was confirmed by our
results where patients’ efforts to increase physical activity significantly improved physical functioning” (p. 11-12). Well, no - the authors do not test (or at least not report any test on) if/how physical activity improves OSQOL in each BMI-group.

All in all, in order to make sufficiently more of the data, it should be reanalysed as follows:

(a) Probably replacing Table 2 for reasons of space, it should be reported how the three BMI-groups (28-29.9, 30-34.9, >= 35) are composed of in terms of age, gender, occupational status, current smoking, alcohol consumption, number of associated co-morbid diagnoses, previous efforts to change diet and previous efforts to change physical activity - and if BMI is associated with these variables.

(b) Logistic modelling should follow a hierarchical approach, i.e. in such a way that variables that can be hypothesized to be able to explain higher odds of poor OSQOL in severely and moderately obese compared to those in preobesity range (BMI= 28-29.9) are entered consecutively after the BMI-group-factor to see if the ORs of the obese groups are attenuated. If this is the case, and at the same time there is an association between BMI and the variable under scrutiny, there is evidence for mediation (Baron RM, Kenny DA. J Pers Soc Psychol 1986;51: 1173-82).

(c) If really any moderation effects are to be tested, e.g. if physical activity changes boosts OSQOL regardless of BMI, then interaction terms should be entered into modelling (again, see Baron & Kenny, 1986).

2. Even though the authors acknowledge the limitations of the OSQOL-instrument in the two psychosocial domains, they should be even more cautious in their interpretations based on these dimensions: I dare to seriously doubt that the one item which indicates psychological state, i.e. “I feel very ill-at-ease”, has anything obesity-specific to it (making the interpretation of the threefold higher odds of the severely vs. the non-obese even more difficult, specifically in terms of poor QOL - which is not the same as depressive mood!). Also, is the item “I feel I am being attacked when people talk about my weight” really anywhere near sufficiency to assess overweight’s impact on overweight people’s “Relations with others”?

3. Likewise, I strongly suggest a more balanced assessment of the pros and cons of pharmacy customers as a population among which to test the BMI-QOL-association among overweight adults. Besides that as noted above no response rate is reported (see also 10. below), a rather elderly, chronically (co)morbid, and possibly also acutely ill sample has resulted (when do you go to a pharmacy? – in case of need, if nothing else, isn’t it?). This is not to say pharmacy customers are not an interesting population to study. However, a comparison of this sample with the French adult population or that of the Rhone-Alpes Region should be added to at least roughly assess how “representative of the overall population of overweight subjects” (p. 12) the sample is, especially given the present public health journal.

Of course, Major Compulsory Revisions should have significant impact on all sections, including Discussion and Conclusions.
Minor Essential Revisions

4. Abstract, Results, first sentence:
   This sentence is unclear: Affected by what?

5. Abstract, Conclusions, first sentence:
   This statement is not justified by the results. It should read e.g. “Severe obesity impairs three of four dimensions of QOL”.

6. “Background”-section, first paragraph:
   This paragraph is too scanty. 2-3 sentences on QoL in chronic diseases, and 2-3 sentences on obesity should more thoroughly introduce readers to the paper.

7. “Background”-section, third paragraph:
   Particularly because it introduces the central theme of the paper, this is both over-stated and under-cited. It’s over-stated because particularly (severe) obesity (rather than “excess weight in general”) may be (not “is”) detrimental for adults’ physical health-related QoL. It’s under-cited because the one study cited for mental health-related QoL (Dinc et al. 2006) on the one hand is rather specific (women in a Turkish city with a high obesity prevalence) and unrepresentative for Western Europe, and on the other hand virtually all of a huge number of studies have shown no noteworthy association between body mass and mental QoL. Not to refer to this is inadequate.

8. “Background”-section, fourth and fifth paragraph:
   Have to be amended when changes according to Major Compulsory Revision 1. have been implemented.

9. “Study design and population”-section:
   How was the actual BMI of participants determined? As stated in the Limitations-section of the Discussion, “Only patients presenting a probable excess weight according to the pharmacist’s judgement were asked to participate” (which is critical, as the authors themselves state), but how was the actual BMI of participants assessed? By measurement through the pharmacist or by self-report of the participants (given that it’s certainly not by estimation by the pharmacist). Also, the fact only patients presenting a probable excess weight according to the pharmacist’s judgement were asked to participate should already be mentioned in “Study design...”.

10. “Study design and population”-section:
    More information is needed:
    (a) How were the instructions for the pharmacists on how to select those to be asked to participate among those with an estimated BMI >= 28? 
    (b) How many pharmacy customers were asked to participate? I.e., how was the response rate? 
    (c) Why did recruitment stop at 551 patients? For reasons of funding? Considerations of statistical power? Other reasons?
11. Re identification of co-morbid diagnoses, more information is needed as well: Which “drug therapies dispensed” were considered? Only those by the pharmacist recruiting the patient? Only those dispensed at the visit within which recruitment took place?

12. Skewness is not a sufficient reason for dichotomizing quantitative scores for dimensions 1 and 2 (for instance, one could use transformations and conduct analyses of covariance). Also, further on in the text the authors do report results on the quantitative scores (p. 8, sentences 2 and 3). Thus, more justification is needed for dichotomization. Finally, choice of the lowest quartile has to be justified more substantively.

13. p. 10, Discussion, third sentence: The items used to assess behaviors do not justify such a conclusion.

14. p. 10, Discussion, sentence after citation 19: This is incorrect: As reported in Table 4, moderately obese patients’ OSQOL did NOT significantly differ from those with BMI 28-29.9 – please do not overstate findings!

15. Tables:
(a) Table 1: More information on age distribution should be given in the text (range etc.)
(b) Missing data has a dash (“-“) under “Social economic status”. This should be deleted, and “Social economic status” should be changed into “Socio-economic status”.
(c) Tables 1, 3 + 4: In BMI-categories, “< 30” should be “28-29.9”, and “[30 – 35[“ should be “30 – 34.9”.
(d) Tables 1, 3 + 4: Given that the “Three and more”-number of co-morbid diagnoses–group (which by the way should read “Three or more”-) comprises almost 60% of the sample, a finer-grained analysis should be possible here (e.g. “0-1”, “2”, “3”, “4 or more”). Also, that the present study does not use a severity-adjusted comorbidity index has to be justified.

Discretionary Revisions
16. Keywords: Behavioral factors are missing from this list; also, “gender” is critical as a KEYword since analyses that would “really” be gender-sensitive would have been stratified for gender, and would have examined interaction terms with other variables.

17. “Background”-section, second paragraph, first sentence:
Why only one citation, and why only for older adults?

18. Why were the items regarding previous efforts to change diet and physical activity restricted to changes aiming at health improvement? People may change for other reasons as well.

19. Please justify why p < .10 instead of p < .05 was used as criterion to include covariates other than gender, BMI and socio-economic status.

20. Information of the total sample size (551) and of those who had completed all
OSQOL-dimensions (494) are probably better placed under Methods than under Results.

21. Under Analyses (p. 6), the information of dichotomization and using quartiles is unneeded since this has been explained under Date collected (p. 5) already.

22. p. 8, line 3 under 3-Univariate correlates: This should be “(Table 4)”.

23. p. 12, sentence ending with citation 28: This argument also holds for the operationalization of physical activity. In other words, “retrospective self-report” as a critical feature may contribute to possibly falsely significant results as well as possibly falsely insignificant results, and should not be used as an argument in the latter case only.

24. p. 14, last sentence before “Conclusions”: I do not see how the assertion that pharmacists may “greatly contribute to the preventions of excess weight” relates to a study in which all participants already are of excess weight.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.