Reviewer's report

Title: Water exercises and quality of life during pregnancy

Version: 1 Date: 7 May 2011

Reviewer: Iva Tendais

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Major compulsory revisions

The proposed manuscript has selected an important topic of research because of the potential value of exercise to women’s physical and psychological health during pregnancy. Furthermore, there are a limited number of studies about this topic, especially intervention studies. Nevertheless, there are also some issues that must be addressed before definitely accepted for publication.

The literature review is incomplete. Authors claim that “there are no references in the literature on the role of either land or water-based physical exercise on women’s quality of life during pregnancy” even though a randomized trial has been published on this topic (Montoya AV, Buitrago O, Aguilar de Plata, AC, Ramirez-Velez R. Aerobic exercise during pregnancy improves health-related quality of life: a randomized trial. J Physiother 2010;56:253-258) showing a positive effect of aerobic exercise in health-related quality of life. The mention on the land-based exercise is also confusing since it is not addressed in the present study. Research studies on exercise during pregnancy and quality of life are also not reported (Haas JS, Jackson RA, Fuentes-Afflick E, Stewart AL, Dean ML, Brawarski P, et al. Changes in the health status of women during and after pregnancy. J Gen Intern Med 2004;20:45-51), as well as studies on the quality of life throughout pregnancy (Haas JS, Meneses V, McCormick MC. Outcomes and health status of socially disadvantaged women during pregnancy. J Womens Health Gend Based Med 1999;8:547-553. Hueston WJ, Kasik-Miller S. Changes in functional health status during normal pregnancy. J Fam Pract 1998;47:209-212.).

There is an inconsistency between the study objective (association) and the chosen statistical analysis (group comparisons).

The presented study is not an observational comparative study since an intervention (water aerobics classes) has been proposed to half of the sample. In the Methods section, the authors also state that “Women who complied with the aforementioned criteria and agreed to participate in the study were immediately allocated to one of the two groups…” even though they have previously described the exclusion criteria and not the inclusion criteria.

There is no information regarding the intervention duration and the compliance to the intervention. This information is fundamental to discuss the obtained results. Besides the low number of participants and the apparent drop-out in both groups, the lack of positive results could be due to failing to ensure exercise compliance,
in terms of duration (number of weeks), frequency (number of attended classes). Attrition analyses are necessary. It is not clear if the follow-up assessments refer to intermediate assessments during the intervention period or were conducted post-intervention.

The presented information on the measure of quality of life used is insufficient. The psychometric properties of the questionnaire should be briefly outlined, as well as the number of items, scoring, minimum and maximum values, dimensions/domains.

In the statistical analysis section, it is not clear if the authors used MANOVA or repeated measures ANOVA. Each of the statistical tests presented is not correctly named (“repeated measures” instead of “repeat measures”, “Friedman test” instead of “Friedman’s analysis of variance for repeat measures”). The purpose of each statistical analysis should be provided in this section. The statistics (F, degrees of freedom, p values, 95% confidence intervals, mean, standard deviations) should be presented in text or tables.

A ceiling effect should be considered as a possible explanation for the lack of gains in the intervention group. This effect has been described in the quality of life research.

A table should be included with the characteristics of the sample (both groups).

Minor essential revisions
Table 1 should be eliminated. The information can be briefly presented in text. “Admission” should be substituted by “baseline” or “pre-intervention”.

**Level of interest:** An article of importance in its field

**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.