Reviewer’s report

Title: 12 month findings from the Walking for Wellbeing in the West study: a comparison of two pedometer-based walking interventions

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Reviewer: Manuel Coelho e Silva

Reviewer’s report:

The manuscript is interesting and corresponds to the need of interventional studies often claimed in conference and editorials. However, I have some suggestion to be considered by authors:

[1]
Regarding the title, authors probably over-estimate the interest of the readers about the comparisons of two programs. Actually, a title such as "WALKING FOR WELLBEING IN THE WEST STUDY: factors affecting pedometer-based intervention"

may more adequate.

[2]
The instruments are not fully presented in the abstract. For example, in the Results section, I contacted with "positive affect", but in the section methods, I do not have any information about this variable.

[3]
Authors may need to consider some data in the abstract and the exact statistics, not only the p value.

[4]
The study failed to confirm the differences between interventions. Actually, I am not sure that
- group 1 and group 2 are free of sampling error,
- repeated ANOVA is the best technique to examine changes over time

[5]
The inclusion of 16 males in the sample may be problematic. Males and females are substantially different in terms of social support for exercise. The literature is somewhat abundant in that particular
The term "physiology" is used several times. I am not contacting with any physiological variable in the manuscript.

Regarding the questionnaires, the readers would be delighted to contact about some properties of the instruments such as:

- its origins
- internal consistency
- reliability.

Some questionnaires were developed in adolescents, young adults or adults and it is important to present some information about past application in elderly samples.

Taking into account several time moments in the process of data collection I would suggest the consideration of an alternative analysis such as multilevel modelling.

The recommended analysis should be driven by the literature and also by a preparatory contact with the data to check potential:

- age related inter individual variability of the constructs at the baseline and across the program
- sex associated inter individual variability.

It is possible that other factors than type of program explain developmental changes. After the contribution of variables such as sex and age, PNAS, BMI, the type of program (group 1 versus group 2) probably adds some explained variation in a model that allows the interpretation of changes in physical activity, quality of life.

Some details of the methods are excessive.

"All behavioural, psychological and physiological data were double entered and cross checked by a different member of the research team. Paper records were stored in a secure location"

Editors, referees and readers do not have any chance to confirm this information. Moreover, the proceedings correspond to the essentials of any decent project management.
It is possible to consider a descriptive table (Table 1) with information about minimum, maximum, mean, standard deviation and distribution normality for the total sample at the baseline?

The format of table 3 (Group 1 in the left, Group 2 in the right portion) is much easier to interpret than Tables 1 and 2 (group 1 upper line, group 2 lower line).

In tables, I would be interested to contact with F and P of the effects.

At tables, provide some information (in the legend or in the bottom of the table) about the interaction effect.

Figures 2-3-4 may be improved if an histogram was assumed for each time moment.
- Different groups would correspond to different columns (side-by side).
- Each column would include the bars of variability within the group.
- A time-line would pass in the mean of each group (pre-intervention, 12 weeks, 24 weeks, 48 weeks).

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

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
Nothing to declare