**Reviewer’s report**

**Title:** A population-based survey on physical inactivity and leisure time physical activity among adults in Chiang Mai, Thailand, 2014

**Version:** 0  **Date:** 21 Mar 2017

**Reviewer:** Eero Haapala

**Reviewer’s report:**

I had an opportunity to review a manuscript titled "A population-based survey on physical inactivity and leisure time physical activity among adults in Chiang Mai, Thailand" by Dr. Thanamee and co-workers.

**Overall comments**

The manuscript provides number of important findings. It is important to describe the associations between PA and stages of change. The manuscript is well written and easy to follow.

However, the main weakness, in addition to cross-sectional design, is that no differences in PA or stages of change between normal weight and overweight/obese and between person from different socioeconomic backgrounds. It has been found in previous studies that PA levels are low among those at the lowest socioeconomic position. It also plausible that the stages of change differ between socioeconomic status. Same concern remain regarding the weight status.

**Specific comments**

Abstract.

I suggest that the Authors inform the reader how they defined sufficient levels of physical activity already in the Methods section of the abstract.

Please also report the age range and number of men and women in the sample.

L14. I suggest to revising as "We estimated that a quarter…” to keep past tense

**Introduction**

1. paragraph. Please explain what you mean by physically inactive. Is it less than 180 minutes of PA/week in moderate intensity? It is also important to separate sedentary behavior from physical inactivity.
I suggest that the Authors provide some data about, for example, the prevalence of overweight and obesity in Thailand. This data would provide better understanding how important is to increase energy expenditure.

P5. Please provide some evidence and information about intention to change. Is it related to increased PA in subsequent years in other populations or in some specific populations?

Methods

P6. Please provide a reference for MET-thresholds for moderate and vigorous PA. In adult-populations, 3 and 6 METs are more commonly used. Therefore, the use of these thresholds need to be justified.

P6, L16. Whole term is Metabolic equivalent of task.

P6. GPAQ also include one question about daily sitting time as a measure of sedentary behavior. Although not the main aim of the study, I suggest that the Authors also include this information to this manuscript. It would, for example, to see if there are any differences in sitting time between inactive active participants or what is the population mean of sitting and how it differs across age groups.

P6. Please provide data on reliability and validity of GPAQ. Can this measure classify accurately inactive and active persons? Because this is the main study question, the validity of the questionnaire regarding this issue should be explained and throughout discussed.

P7. In addition to age and gender, overweight and obesity plausibly affect on PA and stage of change. Please include a measure of adiposity as a modifying factor in these analyses.

P7. Please also describe the software used to analyze the data.

Results

P9. In overall, the results are clear and easy to follow and they provide an overview on the prevalence of physical inactivity in the population. The Authors also describe the stages of change, which is important issue, but they did not provide data if there were any differences in stages of change between inactive and active population.

Discussion

P10, L12. Is there any population specific reasons for lower levels of physical activity among females in Thailand. Although it seems to be quite universal phenomenon, some cultural factors may also explain lower PA levels in females.

P10-11. Is there any evidence that environment designed to promote physical activity enhances physical activity levels and is related to stages of change. E.g. if there is adequate routes for
cyclist and other light traffic commuters, is it related to higher levels of physical activity. What about parks and other green areas?

P11, L22. Is that a good reference to point out that active commuting may not be the answer. I think we need to look at larger picture and not just one cross-sectional study (which also discussed reverse causation). There are many reviews showing that active commuting is related to decreased cardiometabolic risk (e.g. Hamer & Chida Prev Med. 2008 Jan;46(1):9-13; Shephard RJ Sports Med. 2008;38(9):751-8). And it is probable, if active commuting increases physical activity levels, it is related to improved health at a population level. I suggest that the Authors review the literature more throughout to explore what kind of promotion actions have been effective to improving physical activity levels and is there evidence that LTPA should be the main target.

P12, L9. "This suggests that sufficient walking is comparable to moderate-intensity PA". This is a little bit odd sentence because I think we agree that walking IS light to MVPA not just comparable to? This paragraph also needs further discussion how to increase PA at population level. I think that there is evidence that affecting on environment and providing psychosocial support is related to increase PA.

P12.Limitations. The limitations also include lack of data on socioeconomic status and overweight and obesity. This should be mentioned although health factors are needed.

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