Reviewer's report

Title: Psychometric Properties of two Physical Activity Questionnaires, the AQuAA and the PASE, in Cancer Patients.

Version: 2 Date: 24 January 2011

Reviewer: Mette Aadahl

Reviewer's report:

- Minor Essential Revisions

General comments: This study contributes nicely to the (difficult) field of measuring Physical Activity. The study seems well conducted and appropriate methods have been applied. Although conducted in a rather small study sample, the study design and the methodology (combination of quantitative statistics and qualitative interviews) may well serve as an inspiration or a model for others who need to assess reliability and validity of PA self-report instruments.

Background: I believe the background does not explicitly argue or state WHY it is relevant to be able to measure PA in cancer patients? This may seem very basic, but while anxiety and depression, reduced physical fitness and fatigue is mentioned - and the fact that exercise may improve QoL, the rationale behind measuring PA in cancer patients is missing.

Background, second last paragraph: The authors state that a PA questionnaire that assesses PA over the past month is less suitable to determine the effect of exercise interventions with a relatively short time frame. In this context it is not clear, why this matters? If the purpose of this study is to identify the best questionnaire for measuring the effect of an exercise intervention - responsiveness of the instrument is relevant and should be tested.

Procedures: Was the AQuAA and the PASE completed at T0 and T1 in a specific or a random sequence? (or ideally: in an randomised alternate sequence?) - please clarify.

ActiGraph Accelerometer: I assume the Actigraph accelerometers were uniaxial ones? ('Vertical accelerations measured by the ActiGraph were converted into activity counts per minute'.) Please include this information explicitly.

Results/Recruitment and Study Popultion Characteristics/First sentence: In my opinion this sentence belongs in the Methods section, whereas you may want to add information on how many patients declined to participate and whether any patients dropped out.

Discussion/Content Validity/Last sentence: 'These problems may have introduced recall bias' - How so - please elaborate?
- Discretionary Revisions

Construct Validity:

I realise that the terminology in relation to types of validity is indeed debatable, but I would suggest the authors consider calling it 'criterion' or 'criterion-based' validity rather than 'construct' validity. While there is no gold standard for measuring PA, I would argue that you choose to regard accelerometry as a superior measurement or a 'criterion' against which you compare the PASE and the AQuAA.

**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