Comment 1: Based on the Introduction section and Abstract, I could infer that the authors proposed the following research question: what is the performance of contact-free non-restraining continuous bed sensor system (BSS) to determine pursuing curative treatment compared to the traditional tool ECOG PS?

Reply 1: Thank you for your constructing comments, it is true that we would like to, in the future, to be able to determine performance of patients by BSS for treatment eligibility or to predict prognosis within PS4 patients. But in this small research, we could only suggest on some of the measures as a candidate to show PS change.

Comment 2: The major limitation of the manuscript is that the authors deviated from their primary intent and added too many secondary analyses to catch a positive signal. The authors may have overstated their findings.

A better way to present their data might be by illustrating a ROC curve according to PS 3 (poor) of the activity index domain (the primary endpoint).

Reply 2: We agree with your suggestion and tried to focus more on activity measurements and added new measure % time on bed, as well as number of bed leave and activity index.

We have consulted our biostatistician and his suggestion, due to the small number and different background of participants, was to present the data as raw 19 data, not to compare statistically amongst all PS situations. It is true to say that the data may be too small to generalize however is enough to show the trend and give us with suggestions for our future research. ROC curve has been tried but as there was no significance the line did not meet any presentable graph. Such that we decided to focus on two different group of patients within the same group, PS 3 and 4 in palliative care patients and PS 1 and 2 in oncology patients.

Comment 3: The overall scientific writing needs improvement. The Introduction section should clearly state the research question. Although the known fact on limitations of the ECOG-PS tool, the present research aims to compare BSS with the current golden standard ECOG-PS. Avoid overemphasising the downside of the ECOG-PS tool in the present study, leaving that as a comment in the Discussion section about its future implications.

Reply 3: The introduction section has been changed and have stated that "The aim of our study was to evaluate continuously monitored BSS parameters to determine patient's performance in advanced hospitalized cancer patients." (p5,L11) As has been suggested, limitation of ECOG-PS tool has been moved to the discussion section.

Comment 4: The Methods section should detail inclusion and exclusion criteria and explicitly define the primary and secondary endpoints.

Reply 4 (1): We have added the inclusion and exclusion criteria in the method section, and also the reason for the long research period.

Change in the text (1): Written informed consent was obtained from each consecutive patient admitted to the palliative care unit or the clinical oncology ward during the research period after explaining the risks and purposes of the study. Due to the exploratory study purpose, the number of participants was determined by eligibility status of our palliative care ward. Exclusion criteria were 1) those unable to sign informed consents due to impending death or consciousness loss and 2) those with apparent paralysis. Twenty patients, 10 in the palliative care ward and 10 in the clinical oncology ward were enrolled between June 2020 to August 2021. The reason for the long study period was due to the corona virus infection pandemic which restricted our bed-use during this period. (p6,L1~L8)

Reply 4 (2): We have also defined the primary endpoint in the method section.

Change in the text (2): The primary endpoint of the study was ACI in different PS patients. Secondary endpoints were other BSS monitored activity parameters, such as number of bed-leave during day and night or % time in bed. Other BSS monitored vital signs, which included respiratory rate (RR), respiratory tidal weight (TW) and heart rate (HR), were also included as the secondary endpoint.(p6,L10~p7,L3)

Comment 5: I suggest revising the statistical analysis.

Reply 4: Thank you for your suggestion. We have consulted our biostatistician and his suggestion due to the small number and different background of participants, was to present the data as raw 19 data and not to pursue multiple comparison in search of small statistical changes. We have tried to show the results as simple as possible and graphs and table were changed so as to compare majorly within group PS changes.

Comment 6: The Results section could bring a high-level sense of data. Tables and figures should stand alone, displaying detailed data if needed. Many numbers and abbreviations may need to be clarified for the reader.

Reply 6: Figures and Tables were changed with detailed data with abbreviation clarified.

Comment 7: A different topic to be debated in the Discussion section could be how a hospital-based device could be implemented on a large scale to determine overall performance. The authors' conclusions are overreaching their results.

Reply 7: We agree that this hospital-based device is a major limitation to the generality of the results. We have discussed this topic in the limitation section.

Change in the text: Another limitation of the study is that the BSS system, at present, can only be utilized in hospital beds. Whether respiratory and heart rate stabilities can be monitored for even short times, as few hours on out-patients' chemotherapy beds, need to be confirmed in future studies. Home based BSS system and tele-monitoring may be another choice in the future.(p18,L9)

Comment 1: The authors have conducted a small prospective, observational study examining a novel BSS monitoring system and performance status. The study not the number of bed leaves, surprisingly decreased heart rate (expect to be higher with poor performance status) and heart rate instability to be objective indicators of poor PS.

The study is novel and of interest to palliative care professionals, minor suggestion, since HR instability was the strongest factor associated with poor PS, consider expanding in discussion regarding autonomic dysfunction, which is frequent in advanced cancer patients,

Reply 1: Thank you for your positive feed-back. We have consulted our biostatistician and his suggestion due to the small number and different background of participants, was to present the data as raw 19 data and that multiple logistic regression analysis was considered no necessary. Yet, amongst all parameters HR was the only vital sign which showed significance in all aspects and seemed important. We have added, in the discussion, some possibility for the autonomic dysfunction in advanced cancer patients. Though the phenomenon does not agree with what we found, we agree that it is an important phenomenon suggesting vital sign abnormalities in cancer treated patients.

Change in the text: Autonomic dysfunction (AD) in advanced cancer patients have recently been reported and have been focused as a mortality risk (14). Cancer itself, certain cancer drugs and radiotherapy to certain area and other combined cancer-associated lifestyle disturbances have been reported to contribute to autonomic disturbances in advanced cancer patients; however, this AD is characterized by elevated heart rate and reduced heart rate variability which coincides with our study. The reason for low heart rate and high heart rate instability in palliative care patients is unclear and needs to be confirmed in future research.(p18,L5)