PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (http://bmjopen.bmj.com/site/about/resources/checklist.pdf) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Development of a physical activity monitoring tool for Thai medical
	schools: a protocol for a mixed methods study
AUTHORS	Wattanapisit, Apichai; Vijitpongjinda, Surasak; Saengow, Udomsak; Amaek, Waluka; Thanamee, Sanhapan; Petchuay, Prachyapan

VERSION 1 - REVIEW

REVIEWER	Philipe de Souto Barreto
	Gerontopole of Toulouse, University Hospital of Toulouse (CHU-
	Toulouse)
REVIEW RETURNED	26-Apr-2017

GENERAL COMMENTS	Overall: This paper describes the protocol of a mixed methods study on PA in a medical school in Thailand. The topic is timely and innovative. The main shortcoming is the small size of the study, which will be developed in a single medical school in Thailand. Moreover, it is too much focused on the « PA situation of the medical school », which narrows the reach of the study. Another potential issue is that the protocol the study is being submitted after the study starts, which does not allow readers to be sure what is described is the protocol foreseen since the very beginning or if adjustments were made due to constraints found during study development; this is an important issue for methodological papers.
	Abstract. In the last phrase Introduction, please, indicate this study is the protocol of a study that will make a survey
	Further describe the MSPARC since it is the heart of your study
	Introduction. Too long. Consider shortening it
	PA doesn't cause 5million deaths Please, use more conservative and recent estimates from the GBD Study published in the Lancet
	I disagree with the phrase: « In terms of manpower, it is assumed that medical students and physicians are more likely to be physically active compared with general populations,[14, 15] and might be the ideal healthy population. »
	Please, define « PA report cards »
	Methods Providing an example of card would be useful

	It is not clear how your data will enable you to elaborate your cards. Make a more concrete description and include, if possible, an example of card
	Results
	Discussion A brief discussion on how you will test the efficacy of the card is needed. It is maybe the object of another study, but a discussion on that is lacking. In other words, you will elaborate a card but you are not sure it works.

REVIEWER	Jane Thornton Western Centre for Public Health and Family Medicine London ON Canada
REVIEW RETURNED	02-May-2017

GENERAL COMMENTS	Good article and very interesting proposal. Re. English grammar/vocabulary - PA 'situations' is not the best
	word. Need to define this term further - do you mean levels,
	incidence/prevalence, or percentage meeting guidelines, etc.? - Suggest that instead of saying this is a product, that it is a 'tool'
	- Some typos still exist throughout (was instead of were, etc.)
	- Study design - you mention quantitatively you will measure quality
	of active environments this doesn't make sense
	- Did you consider stratifying for preclinical vs clinical years?
	- Re. General information - if information only includes main campus, it makes sense to only study main campus
	- Please include reference for using sedentary cut-off as greater or equal to 8 hrs per day
	- Consider changing wording for 'type of place'
	- Re. Policy - education metrics - please define what you mean by
	each bullet (i.e. basic knowledge of physical activity - what does that mean?)

VERSION 1 – AUTHOR RESPONSE

Reviewer 1

4. The main shortcoming is the small size of the study, which will be developed in a single medical school in Thailand. Moreover, it is too much focused on the « PA situation of the medical school », which narrows the reach of the study.

Response: We have changed the title of this protocol paper so it will inform readers about the development of a tool in a single setting.

5. Another potential issue is that the protocol the study is being submitted after the study starts, which does not allow readers to be sure what is described is the protocol foreseen since the very beginning or if adjustments were made due to constraints found during study development; this is an important issue for methodological papers.

Response: Thank you for the suggestion. This protocol paper reports an ongoing study. We have

followed the protocol and the study has not finished.

6. In the last phrase Introduction, please, indicate this study is the protocol of a study that will make a survey...

Response: We have rephrased the sentence as the reviewer's suggestion – 'This study is a protocol of a project that will include a survey of the PA situations in a medical school and development of a tool, the Medical School Physical Activity Report Card (MSPARC) which will contain concise and understandable infographics and information, for exploring, monitoring and reporting the information relating to PA situations.'

7. Further describe the MSPARC since it is the heart of your study

Response: We have described more detail about the MSPARC in the abstract – '...the Medical School Physical Activity Report Card (MSPARC) which will contain concise and understandable infographics and information, for exploring, monitoring and reporting the information relating to PA situations.'

- 8. Too long. Consider shortening it Introduction Response: We have shortened the introduction (from 721 words to 672 words) by reorganising the paragraphs.
- 9. PA doesn't cause 5million deaths... Please, use more conservative and recent estimates from the GBD Study published in the Lancet

Response: We have edited the information – 'Globally, physical inactivity causes about 1.6 million deaths a year, 15% of the burden of disease from colon and rectum cancer, 11% of ischaemic stroke, 9% of ischaemic heart disease and 7% of diabetes mellitus.[3]'

Ref: [3] Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015. Lancet (London, England). 2016;388(10053):1659-724.

10. I disagree with the phrase: « In terms of manpower, it is assumed that medical students and physicians are more likely to be physically active compared with general populations,[14, 15] and might be the ideal healthy population. » Introduction

Response: We have removed the sentence and reorganized the paragraph.

11. Please, define « PA report cards » Introduction

Response: - We have described the detail of PA report cards (country cards) as an example - The Global Observatory for Physical Activity (GoPA) have launched PA report cards (country cards), a single slide infographic as a tool, presenting the information on country specific PA profiles for surveillance of PA prevalence and relevant situations.[19-21]

- We have reorganised the paragraph to clarify the ideas of PA report cards
- 12. Providing an example of card would be useful

Response: We have attached the example of report card in the manuscript.

13. It is not clear how your data will enable you to elaborate your cards. Make a more concrete description and include, if possible, an example of card

Response: We have presented the detail of information providing in the report card (figure 1).

14. A brief discussion on how you will test the efficacy of the card is needed. It is maybe the object of another study, but a discussion on that is lacking. In other words, you will elaborate a card but you are not sure it works.

Response: We have added the detail about efficacy test of the card – 'Nevertheless, there is a need

to evaluate the effectiveness and feasibility of the MSPARC. An implementation study will be necessary prior to future surveys.'

Reviewer 2

15. Re. English grammar/vocabulary - PA 'situations' is not the best word. Need to define this term further - do you mean levels, incidence/prevalence, or percentage meeting guidelines, etc.? Response: We have defined the word 'situation' for this study in the introduction - We still do not have a study protocol to explore the PA situations in medical school, hence our research team will focus on exploring the PA situations, including prevalence of PA and sedentary behaviours; quality and accessibility of PA-related environments; and policies relating to PA, in a medical school and developing a tool for exploring, monitoring and reporting the information relating to PA situations. This paper describes the study design and the development of the Medical School Physical Activity Report Card (MSPARC).

- 16. Suggest that instead of saying this is a product, that it is a 'tool' Response: We have changed the word from 'product' to 'tool'
- 17. Some typos still exist throughout (was instead of were, etc.) Response: We have corrected language errors.
- 18. Study design you mention quantitatively you will measure quality of active environments... this doesn't make sense

Response: We have explained the reasons in the data analysis why using a self-rating scale to measure quality of active environments - The quality and accessibility of walkable neighbourhoods, bicycle facilities and recreational areas will be calculated from the self-rating scales as mean scores to generate the fundamental and comparable data among each place.

- 19. Did you consider stratifying for preclinical vs clinical years? Response: Yes, we did. We have added the detail in data analysis people 'The prevalence of PA for preclinical and clinical students will be classified.' and '...the prevalence of sedentary behaviours for preclinical and clinical students will be analysed.'
- 20. Re. General information if information only includes main campus, it makes sense to only study main campus

Response: Thank you for your suggestion. We have investigated 3 domains: people (all campuses – decided to cover both preclinical and clinical students), place (only main campus – the main setting) and policy (all campuses – all the campuses cooperate to organise policies). We have followed this direction for the appropriateness of our setting and conditions.

21. Please include reference for using sedentary cut-off as greater or equal to 8 hrs per day Response: We have included references – 'We will define sedentary behaviour using the cut-off point of ≥8 hours per day of sedentary time.[26, 27]' Ref:

[26] van der Ploeg HP, Chey T, Korda RJ, Banks E, Bauman A. Sitting time and all-cause mortality risk in 222 497 Australian adults. Archives of internal medicine. 2012;172(6):494-500. [27] Win AM, Yen LW, Tan KH, Lim RB, Chia KS, Mueller-Riemenschneider F. Patterns of physical activity and sedentary behavior in a representative sample of a multi-ethnic South-East Asian population: a cross-sectional study. BMC public health. 2015;15:318.

22. Consider changing wording for 'type of place'

Response: We have changed wording to walkable neighbourhoods or bicycle facilities or recreational areas.

23. Re. Policy - education metrics - please define what you mean by each bullet (i.e. basic knowledge of physical activity - what does that mean?)

Response: We have defined each education topic – 'The school curriculum will be reviewed to explore the education metrics regarding the following topics: (1) basic knowledge of PA – basic science of PA; (2) PA and public health – PA guidelines and PA promotion in public health; and (3) PA counselling – tailored PA counselling for healthy people and patients.'

VERSION 2 – REVIEW

REVIEWER	Jane Thornton Western Centre for Public Health and Family Medicine
REVIEW RETURNED	11-Jun-2017

GENERAL COMMENTS	Suggest "prevalence" of physical activity instead of "situation"
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VERSION 2 – AUTHOR RESPONSE

Reviewer

- 3. Suggest "prevalence" of physical activity instead of "situation"
- We have changed the word "situation" to "prevalence" or "metric", if appropriate. We also changed the title of the manuscript to avoid the word "situation".