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)	Standard reference values of the upper body posture in healthy young female adults in Germany: an observational study
AUTHORS	Ohlendorf, Daniela; Fisch, Vanessa; Doerry, Charlotte; Schamberger, Sebastian; Oremek, Gerhard; Ackermann, Hanns; Schulze, Johannes

VERSION 1 – REVIEW

REVIEWER	Pawel Lizis
	Holycross College, Kielce, Poland
REVIEW RETURNED	27-Feb-2018

GENERAL COMMENTS	Abstract Line 41-42. In this sentence remove the mark Ø. Line 59. Remove from the abstract strengths and limitations of the study, include it the discussion section.
	Introduction Line 69. This sentence is unclear. Improve it, and mark that Various subjective and objective methods quantify and analyze the body posture were used, especially the spinal posture. Include the aim of the study clearly at the end of the introduction.
	Overall suggestion. Check English of the manuscript.

REVIEWER	Xiao-guang Liu Peking University Third Hospital, China
REVIEW RETURNED	02-Apr-2018

The findings of this study is interesting and referenceful. Video raster stereography is a good alternative approach to measure body postures. There are some findings/sentences not clearly presented: "Results" in "Abstract": The results are not exactly and specifically displayed. "The spinal column was marginally twisted to the left". You found spine in the frontal view DEVIATED 0.43 degree to the left but spinal column rotated 4.66 degrees to the right. So the above sentence is not exactly written. "The angle in the thoracic spine area is larger than that in the lumbar region"-do you mean kyphosis/lordosis or bending angles? or both? The spine area in your article refers to C7-L3. Usually angle between T12/L1 and L5 represents a closer value to real lordosis. Why not include Lumbar4 and L5? P9L264-265 writes general German females in Mensink's article have a higher BMI than that in the current study. Based on the
quotation of Mensink's findings, women with a high social status are

more likely to have a higher BMI value (36.9% vs 31.8%; 16.4% vs 7.8%). The subjects of the current study have a high social status, but have a lower BMI than Mensink's article. I don't think this result was clearly explained. It seems a little confusing.

P13L313-314: do you mean men have a larger thoracic kyphosis angle than lumbar lordosis angle?

P13L318-319: "The wider female pelvic basin requires a larger angle between the pelvic bones and a larger and lower pelvic transverse diameter." The sentence is confusing! Please explain more clearly.

P13L318-319: "The wider female pelvic basin requires a larger angle between the pelvic bones and a larger and lower pelvic transverse diameter." The sentence is confusing! Please explain more clearly. There are some limitations which were not clearly addressed. The study involved subjects with similar lifestyle. Measurements in these subjects might slightly different from the general. The study does not include the discussion regarding the clinical usage and meaning of the results. I suggest they discuss them in a separate paragraph.

VERSION 1 – AUTHOR RESPONSE

Reviewer(s)' Comments to Author:

Abstract

Line 41-42. In this sentence remove the mark \emptyset .

→ Done

Line 59. Remove from the abstract strengths and limitations of the study, include it the discussion section.

□ Strengths and limitations are not included in the abstract. It is the guideline of the journal to place this information behind the abstract and the key words.

Introduction

Line 69. This sentence is unclear. Improve it, and mark that ... Various subjective and objective methods to quantify and analyze the body posture have been used, especially for the spinal posture.

→ We changed this sentence.

Include the aim of the study clearly at the end of the introduction.

We already included the aim of the study at the end of the introduction but rephrased it.



Overall suggestion.

Check English of the manuscript.

→ We double checked the language by a native speaker.

Reviewer: 2

The findings of this study is interesting and referenceful. Video raster stereography is a good alternative approach to measure body postures. There are some findings/sentences not clearly presented:

"Results" in "Abstract": The results are not exactly and specifically displayed. "The spinal column was marginally twisted to the left". You found spine in the frontal view DEVIATED 0.43 degree to the left but spinal column rotated 4.66 degrees to the right. So the above sentence is not exactly written.

→ The authors thank the reviewer for this note. We have integrated this information into the abstract.

"The angle in the thoracic spine area is larger than that in the lumbar region"-do you mean kyphosis/lordosis or bending angles? or both?

→ We rephrased this sentence to kyphosis and lordosis angle.

The spine area in your article refers to C7-L3. Usually angle between T12/L1 and L5 represents a closer value to real lordosis. Why not include Lumbar4 and L5?

→ Thank you for pointing that out. After consultation with the manufacturer, the initial information about the evaluation parameters was incorrect. As you have guessed, L5 is included and therefore the lumbar lordosis can also be imaged very well in the lumbar region.

P9L264-265 writes general German females in Mensink's article have a higher BMI than that in the current study. Based on the quotation of Mensink's findings, women with a high social status are more likely to have a higher BMI value (36.9% vs 31.8%; 16.4% vs 7.8%). The subjects of the current study have a high social status, but have a lower BMI than Mensink's article. I don't think this result was clearly explained. It seems a little confusing.

→ The authors thank the reviewer for this note. We have clarified this misleading understanding.

P13L313-314: do you mean men have a larger thoracic kyphosis angle than lumbar lordosis angle?

→ Yes, men have a larger kyphosis angle than lordosis angle. This is also the case with women. Since there may be misinterpretations here, we have rewritten this paragraph.

P13L318-319: "The wider female pelvic basin requires a larger angle between the pelvic bones and a larger and lower pelvic transverse diameter." The sentence is confusing! Please explain more clearly.

□ we rephrased this paragraph.

There are some limitations which were not clearly addressed. The study involved subjects with similar lifestyle. Measurements in these subjects might slightly different from the general.

→ We have integrated this limitation into the discussion at a given point (P11, I. 273-275).

The study does not include the discussion regarding the clinical usage and meaning of the results. I suggest they discuss them in a separate paragraph.

→ The clinical usage is written at P14 lines 357-359.

VERSION 2 – REVIEW

REVIEWER	Xiao-guang LIU Peking University Third Hospital
REVIEW RETURNED	23-Apr-2018

GENERAL COMMENTS	All question raised before was answered and revised. I think the
	article is acceptable.