

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Low Back Pain and Associated Factors among Obstetrics Care providers in Public Hospitals of Amhara Regional State, Ethiopia: A Cross-sectional Study
AUTHORS	Zewudie, Bitew Tefera; Chekole, Bogale; Eniyew, muche; Mesfin, Yibeltal; Tenaw, Shegaw

VERSION 1 – REVIEW

REVIEWER	Liebers, Falk Federal Institute for Occupational Safety and Health (BAuA), Nöldnerstr. 40-42, 10317 Berlin, Germany, FB 3
REVIEW RETURNED	12-Jan-2022

GENERAL COMMENTS	<p>Peer-Review for BMC Open</p> <p>Draft ID</p> <ul style="list-style-type: none">• BMJOPEN-2021-055749 <p>Authors of the draft:</p> <ul style="list-style-type: none">• Not blinded to the reviewer: Zewudie et al. <p>Title of the draft:</p> <ul style="list-style-type: none">• Low Back Pain and Associated Factors among Obstetrics Care providers in Public Hospitals of Amhara Regional State, Ethiopia: A Cross-sectional Study <p>Version of the draft / release date:</p> <ul style="list-style-type: none">• First draft; 04 Jan 2022 (downloaded by the reviewer) <p>Date of the review</p> <ul style="list-style-type: none">• 12 Jan 2022 <p>Recommendation of the reviewer</p> <p>1 Generally aspects</p> <ul style="list-style-type: none">• Thank you for the opportunity to review the interesting manuscript.• The manuscript describes the results of a cross sectional study among health care works in Ethiopia regarding the prevalence of lower extremity musculoskeletal disorders and the associated risk factors of lower back pain.• Generally, cross sectional studies regarding the prevalence of low back pain are common in different occupational sectors. However, information about the distribution of musculoskeletal symptoms like lower back pain in the developing countries are important. Therefore the subject of the study is interesting and in the scope of BMC Open. Abstract, background and aim of the study, hypotheses, methods, statistical analysis, results and
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	<p>discussion are understandable and well written. The manuscript is structured and it provides all necessary information.</p> <ul style="list-style-type: none"> • Nevertheless, the reviewer have to make comments and recommendations to the manuscript. <p>2 Abstract, title, keywords</p> <ul style="list-style-type: none"> • The title is informative and reflects the main content and aim of the paper. • The abstract provides an informative and balanced summary about background, aim of the study, methods, statistical approaches, main results and a short discussion. The keywords are given. They reflect the main aspect of the study well and add additional hints to find the study on request. <ul style="list-style-type: none"> • Comment 2.1 (page 1 and page 3, section “Keywords”, minor remark): The key words provided on page 1 and page 3 are different. The keywords on page 1 (“TROPICAL MEDICINE ...”) are not appropriate. Please use the keywords provided on page 3 (“low back pain...”). • Comment #2.2 (page 3, lines 5, section “Objectives”, minor remark): The authors use the abbreviation “LBP” in line 9. Please introduce it for example in line 5 on page 3 (“... low back pain (LBP) ...”). • Comment #2.3 (page 3, line 20 to 22, section “Results”, minor remark): The authors report the prevalence of low back pain occurring in the last 12 month. Therefore, the term for the outcome is “the low back pain in the last 12 month”. Do not cut this term: “Overall, the prevalence of low back pain in the last 12 months was 65.6% (95%CI: 61.5%-70.2%) among obstetrics care providers.” <p>3 Introduction/Background</p> <ul style="list-style-type: none"> • The introduction is informative and explains the rationale for the study. The authors provided the scientific background and cited more or less relevant studies in the field. The citation of the given scientific sources seems to be correct. The sources are current and relevant. The authors provide the aims of the study (“... the objective of this study was to assess the prevalence and associated factors of LBP among obstetrics care providers in public hospitals in Amhara Regional State, Ethiopia.”). • Comment #3.1 (page 4, line 36, paragraph 2, minor remark): In some sentences it is not clear to which setting or country the statement refers. For example, the sentence “LBP cause 10.7% of total years lost due to disability. And work-related LBP causes 818,000 disability-adjusted life years lost.” could refer to Ethiopia or the world. Please add the specific setting the information and reference refers to (for example “globally” or “in Ethiopia” etc.). Please check all statements in the introduction regarding this issue. <p>4 Section “Methods”</p> <ul style="list-style-type: none"> • The section provides all relevant and expected information regarding such a cross-sectional study. The study design, the study population and data source, settings, time period, inclusion criteria, type data collection are mentioned. The statistical approaches are described.
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	<ul style="list-style-type: none"> • Comment #4.1 (page 6, line 25 to 26, section “Data collection tool and procedures”, major compulsory revision): The authors mention that the Standardized Nordic Musculoskeletal Questionnaire was used. This is not correct. The original NMQ (Kuorinka et al 1987) does not contain a visual analogue scale or the frequency of LBP (page 12). The NMQ does not contain organizational (job related) factors, work-related factors or psychosocial factors. The 12-month prevalence of low back pain is recorded in the original NMQ using categories (never, at 1 to 7 days etc. to every day). Therefore, it is necessary to dichotomize the answer. Please provide the correct questionnaire used in the study. If you did not use a standardized instrument, provide the questions (translated). Which standardized questionnaires were used to get information about work-related factors? Or did you use self-generated questionnaire? • Comment #4.2 (page 6, line 53-54, section “Data collection...”, major compulsory revision): The authors mention an “workplace stress scale”. Please provide the reference or background of this tool. • Comment #4.3 (section “Data collection ...”, major compulsory revision): In section “results” the authors report results regarding body-mass index, drinking behavior, gender, marital status etc. It is necessary to describe all used variables in section “methods” first (level, categories, question). 5 Section “Results” • Generally: Section “results” is well, dense and understandable written. • Comment #5.1 (page 8, lines 50 to 54, section “Socio-demographic characteristics”, major compulsory revision): See above. Variables like drinking behavior, body mass index etc. should be mentioned and described in section methods first. • Comment #5.2 (page 8, line 18, section “Socio-demographic characteristics”, major compulsory revision): The authors used the term “sex” in the draft. “Sex” refers to the biological aspect of gender. In the study the subjects were ask regarding the gender. Gender is a based on a self-assignment here. Therefore, use the term “gender” is this context, please. Please consider the gender related policies of BMC open. • Comment #5.3 (page 12, table 5, section “Factors associated with LBP”, major compulsory revision): It is not really clear if the results of the adjusted effect estimates (AOR) refer to one model including all variables or to different single models including different sets of confounders. Please provide which variables (confounders) are included in the fully adjusted model. • Comment #5.4 (page 12, table 5, section “Factors associated with LBP”, minor remark): The reference categories of the variables used in the model are listed per variable in different way, sometimes in the first line and sometimes the second line. Please
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	<p>provide the information for the reference category in the second line.</p> <ul style="list-style-type: none"> • Comment #5.5 (pages 7 and 8 , table 1, section “Socio-demographic characteristics”, minor remark): The authors provide information about the distribution of the religion of the subjects. Is there really evidence from the literature or a hypothesis that religion is associated with low back pain? Is it necessary to use and report this issue? If not, avoid the <p>6 Section “Discussion” and “Conclusion”</p> <ul style="list-style-type: none"> • Section discussion summaries and discusses the key results, strengths and some limitations of the study and the generalizability in an appropriate way. The conclusions are balanced. • Comment 6.1 (page 13, lines 52 to 55, section Discussion, major compulsory revision): The authors provide the sentence “Body mass index greater than or equal to 25 kg/m2 was a risk for LBP [37]”. The authors did not show that BMI is a risk factors, in the study of El-Soud et al [37] the effect was shown. Please specify the sentence “El-Soud et al. [37] have shown, that body mass index greater than or equal to 25 kg/m2 was a risk for LBP.” See comment above. <p>7 Tables / Figures / Additional files</p> <ul style="list-style-type: none"> • Five tables and not figure are included in the draft. The tables are understandable. Every table contains an informative header and informative footnotes. • Comments regarding the tables: see above. <p>8 Others aspects</p> <ul style="list-style-type: none"> • The ethical approval and information are provided. • Author’s contribution, acknowledgements, declaration regarding conflict of interest and information on funding are provided. • The strobe checklist for cross-sectional studies is included and is informative. • No comments, remarks or revisions. <p>9 Section Literature / Citations in the manuscript</p> <ul style="list-style-type: none"> • Citations of references are provided numbered within the draft. • The draft includes 39 references. The reference list is order of the citation within the manuscript. The citation of the references seems to be correct. • No comments, remarks or revisions.
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

2 Abstract, title, keywords

- The title is informative and reflects the main content and aim of the paper.
- The abstract provides an informative and balanced summary about background, aim of the study, methods, statistical approaches, main results and a short discussion. The keywords are given.

They reflect the main aspect of the study well and add additional hints to find the study on request.

- Comment 2.1 (page 1 and page 3, section “Keywords”, minor remark): The key words provided on page 1 and page 3 are different. The keywords on page 1 (“TROPICAL MEDICINE ...”) are not appropriate. Please use the keywords provided on page 3 (“low back pain...”).

Response 2.1:

Thank you for the remark. Keywords provided on page 1 are selected from the existing keywords in the system of the journal. The keywords provided on page 3 (low back pain, obstetrics care providers, public hospitals, Ethiopia) are our own keywords, which is not found on the system of this journal. We cannot create our own keywords on page 1, but we tried to select appropriate keywords from the system (Obstetrics, back pain and musculoskeletal disorder).

- Comment #2.2 (page 3, lines 5, section “Objectives”, minor remark): The authors use the abbreviation “LBP” in line 9. Please introduce it for example in line 5 on page 3 (“... low back pain (LBP) ...”).

Response 2.2:

Thank you for the remark. As per recommendation, now we have introduced the abbreviation “LBP” first as low back pain (LBP) (page 2, line 2).

- Comment #2.3 (page 3, line 20 to 22, section “Results”, minor remark): The authors report the prevalence of low back pain occurring in the last 12 month. Therefore, the term for the outcome is “the low back pain in the last 12 month”. Do not cut this term: “Overall, the prevalence of low back pain in the last 12 months was 65.6% (95%CI: 61.5%-70.2%) among obstetrics care providers.”

Response 2.3:

Thank you for the remark. As per recommendation, now we reported outcomes as “the prevalence of low back pain in the last 12 months among obstetrics care providers and its associated factors were investigated” (page 2, line 10-11).

3 Introduction/Background

- The introduction is informative and explains the rationale for the study. The authors provided the scientific background and cited more or less relevant studies in the field. The citation of the given scientific sources seems to be correct. The sources are current and relevant. The authors provide the aims of the study (“... the objective of this study was to assess the prevalence and associated factors of LBP among obstetrics care providers in public hospitals in Amhara Regional State, Ethiopia.”).

- Comment #3.1 (page 4, line 36, paragraph 2, minor remark): In some sentences it is not clear to which setting or country the statement refers. For example, the sentence “LBP cause 10.7% of total years lost due to disability. And work-related LBP causes 818,000 disability-adjusted life years lost.” could refer to Ethiopia or the world. Please add the specific setting the information and reference refers to (for example “globally” or “in Ethiopia” etc.). Please check all statements in the introduction regarding this issue.

Response 3.1:

Thank you for the remark. As per recommendation, we checked all statements in the introduction section and added a specific setting/country and references to some of the sentences that is not clear to which country refers (page 3, line 19, 20 and 26).

4 Section “Methods”

- The section provides all relevant and expected information regarding such a cross-sectional study. The study design, the study population and data source, settings, time period, inclusion criteria, type data collection are mentioned. The statistical approaches are described.

- Comment #4.1 (page 6, line 25 to 26, section “Data collection tool and procedures”, major compulsory revision): The authors mention that the Standardized Nordic Musculoskeletal

Questionnaire was used. This is not correct. The original NMQ (Kuorinka et al 1987) does not contain a visual analogue scale or the frequency of LBP (page 12). The NMQ does not contain organizational (job related) factors, work-related factors or psychosocial factors. The 12-month prevalence of low back pain is recorded in the original NMQ using categories (never, at 1 to 7 days etc. to every day). Therefore, it is necessary to dichotomize the answer. Please provide the correct questionnaire used in the study. If you did not use a standardized instrument, provide the questions (translated). Which standardized questionnaires were used to get information about work-related factors? Or did you use self-generated questionnaire?

Response 4.1:

Thank you for the remark. We agree with review 1 our questionnaire is not only adapted from Standardized Nordic Musculoskeletal Questionnaire. The Standardized Nordic Musculoskeletal Questionnaire was used to establish the prevalence of low back pain in the last 12 months. The other sections such as socio-demographic characteristics, organizational factors, work-related factors, visual analogue scale, and personal and psychosocial factors of the questionnaire were adapted from different previous literatures. The 12-month prevalence of low back pain was classified by a dichotomous outcome according to participants specification of the total length of time they had experienced LBP. We classified as "Yes," if the participant experienced ache, pain or discomfort in the low back for at least one day (≥ 1 day) and "No" if the participant never (0 days) suffered from LBP. A visual analogue scale was adapted from Preeti Doshi, 2015 (how to assess pain). NOW in the revised version of our manuscript, we provided detail descriptions about the questionnaire used in this study (page 5, line 16-29).

- Comment #4.2 (page 6, line 53-54, section "Data collection...", major compulsory revision): The authors mention an "workplace stress scale". Please provide the reference or background of this tool.

Response 4.2:

Thank you for the remark. As per recommendation, now we included the reference and background of workplace stress scale in the revised manuscript (page 6, line 19-25).

- Comment #4.3 (section "Data collection ...", major compulsory revision): In section "results" the authors report results regarding body-mass index, drinking behavior, gender, marital status etc. It is necessary to describe all used variables in section "methods" first (level, categories, question).

Response 4.3:

Thank you for the remark. Variables that were reported in the results were now described in the method section (page 6, line 12-18).

5 Section "Results"

- Generally: Section "results" is well, dense and understandable written.

- Comment #5.1 (page 8, lines 50 to 54, section "Socio-demographic characteristics", major compulsory revision): See above. Variables like drinking behavior, body mass index etc. should be mentioned and described in section methods first.

Response 5.1:

Thank you for the remark. As per recommendation, all variables used in this study were described in the method section first (page 6, line 12-18).

- Comment #5.2 (page 8, line 18, section "Socio-demographic characteristics", major compulsory revision): The authors used the term "sex" in the draft. "Sex" refers to the biological aspect of gender. In the study the subjects were asked regarding the gender. Gender is based on a self-assignment here. Therefore, use the term "gender" in this context, please. Please consider the gender related policies of BMC open.

Response 5.2:

Thank you for the remark. As per recommendation, we used the term "gender" instead of "sex" (page 2, line 14, page 8, table 1 and page 12, table 5).

- Comment #5.3 (page 12, table 5, section “Factors associated with LBP”, major compulsory revision): It is not really clear if the results of the adjusted effect estimates (AOR) refer to one model including all variables or to different single models including different sets of confounders. Please provide which variables (confounders) are included in the fully adjusted model.

Response 5.3:

Thank you for the remark. We included a description of which variables were included in the adjusted model in the revised manuscript (page 11, line 6-9).

- Comment #5.4 (page 12, table 5, section “Factors associated with LBP”, minor remark): The reference categories of the variables used in the model are listed per variable in different way, sometimes in the first line and sometimes the second line. Please provide the information for the reference category in the second line.

Response 5.4:

Thank you for the remark. As per recommendation, we provided the information for the reference category in the second line (page 12, table 5).

- Comment #5.5 (pages 7 and 8, table 1, section “Socio-demographic characteristics”, minor remark): The authors provide information about the distribution of the religion of the subjects. Is there really evidence from the literature or a hypothesis that religion is associated with low back pain? Is it necessary to use and report this issue? If not, avoid

Response 5.5:

Thank you for the remark. There is no evidence from literature that religion is associated with LBP. Now we avoided this variable in the revised manuscript.

6 Section “Discussion” and “Conclusion”

- Section discussion summaries and discusses the key results, strengths and some limitations of the study and the generalizability in an appropriate way. The conclusions are balanced.

- Comment 6.1 (page 13, lines 52 to 55, section Discussion, major compulsory revision): The authors provide the sentence “Body mass index greater than or equal to 25 kg/m² was a risk for LBP [37]”. The authors did not show that BMI is a risk factors, in the study of El-Soud et al [37] the effect was shown. Please specify the sentence “El-Soud et al. [37] have shown, that body mass index greater than or equal to 25 kg/m² was a risk for LBP.” See comment above.

Response 6.1:

Thank you for the remark. As per recommendation, in the revised manuscript we specified the sentence as “El-Soud et al. [37] have shown, that body mass index greater than or equal to 25 kg/m² was a risk for LBP” (page 12, line 21-22).

7 Tables / Figures / Additional files

- Five tables and not figure are included in the draft. The tables are understandable. Every table contains an informative header and informative footnotes.

- Comments regarding the tables: see above.

Response 7.1:

Thank you for the remark. we made correction based on above comment.

VERSION 2 – REVIEW

REVIEWER	Liebers, Falk Federal Institute for Occupational Safety and Health (BAuA), Nöldnerstr. 40-42, 10317 Berlin, Germany, FB 3
REVIEW RETURNED	22-Apr-2022

GENERAL COMMENTS	<p>Peer-Review for BMC open</p> <p>Draft ID</p> <ul style="list-style-type: none"> • bmjopen-2021-055749.R1 <p>Authors of the draft:</p> <ul style="list-style-type: none"> • Not blinded to the reviewer: Bitew Tefera Zewudie et al. <p>Title of the draft: (changed after peer review)</p> <ul style="list-style-type: none"> • “Low Back Pain and Associated Factors among Obstetrics Care providers in Public Hospitals of Amhara Regional State, Ethiopia: A Cross-sectional Study” <p>Version of the draft / release date:</p> <ul style="list-style-type: none"> • Second draft <p>Date of the review</p> <ul style="list-style-type: none"> • 22. April 2022 (draft downloaded by the reviewer) <p>Recommendation of the reviewer</p> <p>The editors of BMC open invited me to review a revised (second) version of the manuscript bmjopen-2021-055749.R1 entitled "Low Back Pain and Associated Factors among Obstetrics Care providers in Public Hospitals of Amhara Regional State, Ethiopia: A Cross-sectional Stud". Thank you for your invitation.</p> <p>Thanks to the authors that you considered the recommendations and remarks of both reviewers in the revised manuscript. In my impression, there are no specific questions or problems left, only editorial. Please check the whole manuscript regarding missing white spaces between terms. For example on pace 4 – last sentence "551km" or at page 6 line 12 "12months" etc. A number and the unit should be separate by a white space. Also a number and the following bracket should be separated by a white space, for example table at page 13 line 17 etc.</p> <p>Despite of these editorial issues I recommend the manuscript for publication in BMC open. Good luck.</p> <p>F.</p>
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