

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Associations between Healthcare Worker Participation in Workplace Wellness Activities and Job Satisfaction, Occupational Stress, and Burnout: A Cross-Sectional Study in Botswana
AUTHORS	Ledikwe, Jenny; Kleinman, Nora; Mpho, Maureen; Mothibedi, Heather; Mawandia, Shreshth; Semo, Bazghina-werq; O'Malley, Gabrielle

VERSION 1 – REVIEW

REVIEWER	Dr Natasha Khamisa Monash South Africa
REVIEW RETURNED	11-Jul-2017

GENERAL COMMENTS	<p>This paper adds value through its contribution to evidence. Some additional recommendations are as follows:</p> <p>~ Introduction - the authors may want to include some literature to justify the rationale of the study. A brief theoretical framework explaining the constructs might be useful. The research question/specific objectives should be explicitly stated in this section.</p> <p>~ Methods - the sampling strategy is well described. Validity/reliability of the questionnaires should be reported. Details on ethics needs to be included (approval number, consent, confidentiality etc)</p> <p>~ Results - Well presented.</p> <p>~ Discussion - This section could use some strengthening (explanation of the findings using existing literature/theories) as well as policy recommendations (by discussing evidence based policies and their success in other contexts).</p> <p>References need to be less than 10 years old. Some update of the references is needed.</p> <p>Generally a well written paper!</p> <p>Review of the revision is not necessary - however, if expected I am happy to review.</p>
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REVIEWER	Medhin Selamu Addis Ababa University, Ethiopia
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GENERAL COMMENTS

Reviewer Medhin Selamu

Title: Healthcare Worker Participation in Workplace Wellness Activities is Associated with Higher Job Satisfaction and Lower Occupational Stress and Burnout: A Cross-Sectional Study in Botswana

The study provides an interesting insight into workplace wellness activities and job-related wellbeing in low and middle income countries. I have some comments that need major amendment of the paper.

Title and Abstract

The title is very precise and it also indicates the study design.

The abstract is very good; it gives a brief summary of the study but I wonder why the authors put the article summary section.

Introduction

Background section needs major revision

- a. Line 9 PLHA needs to have a meaning; the abbreviation is just appearing for the first time; the same issue in line 26 UNAIDS
- b. In this section there are too long sentences that require rewriting. For example, the first sentence is from line 1-3, there is also a very long sentence from line 17-21; both require rewriting.
- c. In this section, paragraph four, the sentence begins by saying "Data suggests...." but this is vague: what type of data? High income or low income country study? Or what else?

Methods

Study design: Present key elements of study design early in the paper

- a. The study setting is not well described. The types of the facility are not clearly stated. How many hospitals, clinics or

health posts were involved in this study?

- b. The study population also requires clear description how many nurses, physicians and so on plus their level of training
- c. What was the eligibility criterion to take part in this study?
- d. The data collection was facilitated by the WWP focal persons and they were even helping completion of the questionnaire for some participant with limited literacy could you please specify their number? In my opinion if this was the case for some of the interviews were not self administered.
- e. There is one paragraph long sentence in the page five lines 7-14. It could be better if the authors re write it.
- f. In the questionnaire section the authors were mentioning the instruments were "well validated" what does that mean? Does this mean it has good psychometric property? Better sensitivity or specificity? Or what are the objective evidences to say an instrument is "well validated". In addition where was those validation studies conducted?
- g. Though MBI is known burnout measures what about its psychometric property? Its prior use in low and middle income countries? What kind of cut off points you used?
- h. Next to the statistics sub section the paragraph talks about ethics, it is better if it has sub heading because it is not part of the statistics.

Results

- a. In this sections there are some abbreviations without description for example line 16 & line 19
- b. Again there are some long sentences that require re writing. For example page 8 line 3-7.
- c. The results would have been more strong if the effect size was reported which would be possible by fitting ordered logistic regression rather than ANOVA

	<p>d. In the tables p values need to be maximum three decimal places and there is no need to make the significant associations bold</p> <p>Discussion</p> <p>The discussion section compares the findings mainly with the previous national survey. The results of this study need to be well situated with the existing evidence in the area.</p> <p>Conclusion</p> <p>a. I don't think there is a need to say in ability to determine the direction of causality is the limitation of this study. Since it is cross sectional it is obvious that one cannot tell about the direction of causality.</p>
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VERSION 1 – AUTHOR RESPONSE

Please find point-by-point responses below, and uploaded with better formatting as a "Supplemental Document for Editors Only".

Cheers,
Nora

Response to Reviewer Comments

Editorial Requirements

- Please revise your title to include the research question. Please note that we do not accept declarative titles. This is the preferred format for the journal.

As per the guidance, we have revised the title to "Associations between Healthcare Worker Participation in Workplace Wellness Activities and Job Satisfaction, Occupational Stress, and Burnout: A Cross-Sectional Study in Botswana"

- Please complete and include a STROBE check-list, ensuring that all points are included and state the page numbers where each item can be found: the check-list can be downloaded from here:

<http://www.strobe-statement.org/?id=available-checklists>

The STROBE checklist for cross-sectional studies has been completed and attached.

Reviewer 1

1. Introduction - the authors may want to include some literature to justify the rationale of the study. A brief theoretical framework explaining the constructs might be useful. The research question/specific objectives should be explicitly stated in this section.

The following references have been added as rationale for the study on the impact of workplace wellness programs and the research context in southern Africa.

- Howarth, A., et al. (2017). "A global, cross cultural study examining the relationship between employee health risk status and work performance metrics." *Ann Occup Environ Med* 29: 17.
- Astrella, J. A. (2017). "Return on Investment: Evaluating the Evidence Regarding Financial Outcomes of Workplace Wellness Programs." *J Nurs Adm* 47(7-8): 379-383.
- Kaspin, L. C., et al. (2013). "Systematic review of employer-sponsored wellness strategies and their economic and health-related outcomes." *Popul Health Manag* 16(1): 14-21.
- Conradie, C. S., et al. (2016). "Corporate Health and Wellness and the Financial Bottom Line: Evidence From South Africa." *J Occup Environ Med* 58(2): e45-53.
- Milner, K., et al. (2016). "How do we measure up? A comparison of lifestyle-related health risk factors among sampled employees in South African and UK companies." *Glob Health Promot*.

The last sentence of the introduction has been reworded to explicitly state the research question "(Page 3) Therefore, a nationally representative survey of health workers in Botswana was conducted to determine if there were associations between participation in WWP activities with individuals' levels of job satisfaction, psychological well-being, burnout, and sources of stress."

2. Methods - the sampling strategy is well described. Validity/reliability of the questionnaires should be reported. Details on ethics needs to be included (approval number, consent, confidentiality etc) References on the original validation of each of the questionnaires have been included, as well as references on validation of the questionnaires in additional languages and contexts. Please see the response to Reviewer 2, question 7f and 7g below.

The ethics statement has been revised to include approval numbers as follows: "(Page 7) The evaluation was approved by the MOH Health Research and Development Committee Reference #PPME: 13/18/1 Vol VIII (434) and non-research determination was received by the University of Washington's Internal Review Board Application #45194EJ.

3. Results - Well presented. Discussion - This section could use some strengthening (explanation of the findings using existing literature/theories) as well as policy recommendations (by discussing evidence based policies and their success in other contexts).

To the authors' knowledge, this is the first report of the effectiveness of a national workplace health promotion initiative for public health workers in middle- or low-income countries. We have added a discussion of policy implications based on the following theory and research findings:

- Cropanzano, R. and M. S. Mitchell (2005). "Social Exchange Theory: An Interdisciplinary Review." *Journal of Management* 31(6): 874-900.
- Milner, K., et al. (2013). "The relationship between leadership support, workplace health promotion and employee wellbeing in South Africa." *Health Promot Int* 30(3): 514-522.

4. References need to be less than 10 years old. Some update of the references is needed. Please see responses to question 1 above, additional recently published references have been added.

Reviewer 2:

5. Title and Abstract. The title is very precise and it also indicates the study design. The abstract is very good it gives a brief summary of the study but I wonder why the authors put the article summary section.

The strengths and limitations bullet points have been provided as part of the journal house style.

6. Introduction. Background section needs major revision

6a. Line 9 PLHA need to have a meaning the abbreviation is just appearing for the first time the same issue in line 26 UNAIDS

Line 9 has been revised make the PLHA acronym more explicit. Line 26 has been revised to provide the meaning of UNAIDS.

6b. In this section there are too long sentences that requires rewriting for example the first sentence is from line 1-3, there is also very long sentence from line 17-21 both requires rewriting.

These lines have been revised to shorten them.

6c. In this section paragraph four the sentence begins by saying "Data suggests...." but this is vague what type of data? High income or low income county study? Or what else?

This sentence has been revised to indicate data from high-income settings (Page 3).

7. Methods. Study design: Present key elements of study design early in the paper

A line has been added to the start of the Methods section "(Page 4) This was a cross-sectional survey of staff employed at public health facilities in Botswana."

7a. The study setting is not well described. The types of the facility are not clearly stated. How many hospitals, clinics or health posts were involved in this study?

The number of hospitals, clinics, and health posts involved in the study have been added. "(Page 4) In total, surveys were distributed to 1,856 health workers in 134 facilities (32 clinics with maternity, 29 clinics without maternity, 26 health posts, 26 DHMTs, and 21 health posts)."

7b. The study population also requires clear description how many nurses, physicians and so on plus their level of training.

A sentence has been added on participants' educational background. "(Page. 6-7) Of the 1,856 forms distributed, questionnaires were completed and returned by 1,348 health workers, a response rate of 73%. [...] Of respondents, 2.9% were doctors, 29.2% were nurses, 27.4% were other professionals, 10.4% were administrative, and 27.2% were support staff."

7c. What was the eligibility criterion to take part in this study?

The following sentence was added to the Methods Section. "(Page 4) Individuals had to be employed in a selected public health facility to be eligible to participate."

7d. The data collection was facilitated by the WWP focal persons and they were even helping completion of the questionnaire for some participant with limited literacy could you please specify their number? In my opinion if this was the case for some of the interviews were not self administered.

The occurrence of WWP focal person helping completion of questionnaires was very rare, exact numbers were not collected. We have reworded this sentence to read. "(Page 4) In rare cases where a participant had limited literacy and/or English skills, focal people supported completion of the survey."

7e. There is one paragraph long sentence in the page five lines 7-14. It could be better if the authors re write it.

This has been revised to be two sentences.

7f. In the questionnaire section the authors were mentioning the instruments were “well validated” what does that mean? Does this mean it has good psychometric property? Better sensitivity or specificity? Or what are the objective evidences to say an instrument is “well validated”. In addition where was those validation studies conducted?

In each place this has been clarified to state psychometrically well validated (Page 5). The original validation studies were conducted in Western, high-income countries. However replications have been conducted as per the following references in a wide variety of settings. These reference have been added to the manuscript (Page 5):

GHQ12

- Ali, G. C., et al. (2016). "Validated Screening Tools for Common Mental Disorders in Low and Middle Income Countries: A Systematic Review." PLoS One 11(6): e0156939.

JDI

- Kinicki, A. J., et al. (2002). "Assessing the construct validity of the job descriptive index: a review and meta-analysis." J Appl Psychol 87(1): 14-32.

7g. Though MBI is known burnout measures what about its psychometric property? Its prior use in low and middle income countries? What kind of cut off points you used?

The MBI has been shown to have strong psychometric properties across a variety of settings and populations. The following references have been added to the manuscript (p 6):

- Poghosyan, L., L.H. Aiken, and D.M. Sloane: Factor structure of the Maslach burnout inventory: an analysis of data from large scale cross-sectional surveys of nurses from eight countries. *Int J Nurs Stud* 46(7): 894-902 (2009).
- Worley, J., M. Vassar, D. Wheeler, and L. Barnes: Factor structure of scores from the Maslach Burnout Inventory: A review and meta-analysis of 45 exploratory and confirmatory factor-analytic studies. *Educational and Psychological Measurement* 68: 797-823 (2008).
- Langballe, E.M., E. Falkum, S.T. Innstrand, and O.G. Aasland: Langballe, Falkum, Innstrand, Aasland (2006). The Factorial Validity of the Maslach Burnout Inventory–General Survey in Representative Samples of Eight Different Occupational Groups. *Journal of Career Assessment*. *Journal of Career Assessment* 14(3): 370-384 (2006).

Further, it has been used widely in high, middle, and low-income settings:

- Jovanović N, Podlesek A, Volpe U, Barrett E, Ferrari S, Rojnic Kuzman M. (2016) Burnout syndrome among psychiatric trainees in 22 countries: Risk increased by long working hours, lack of supervision, and psychiatry not being first career choice. *Eur Psychiatry*. 32:34-41
- van der Colff JJ, Rothmann S. (2014). Burnout of registered nurses in South Africa. *J Nurs Manag*. 22(5):630-42
- Akintola O, Hlengwa WM, Dageid W. (2013). Perceived stress and burnout among volunteer caregivers working in AIDS care in South Africa. *J Adv Nurs*. 69(12): 2738-49.

As per the Maslach Burnout Inventory: Manual and Non-Reproducible Instrument and Scoring Guides from Mind Garden, the MBI was analyzed using the average response. Cutoff points were not used and levels of the subscales have been reported to have differences across occupations and cultures and were not judged appropriate by investigators for this analysis.

7h. Next to the statistics sub section the paragraph talks about ethics, it is better if it has sub heading because it is not part of the statistics.

An ethics heading has been added to page 6.

8. Results

8a. In this sections there are some abbreviations without description for example line 16 & line 19 OSHA, DHMT

These abbreviations have been spelled out.

8b. Again there are some long sentences that require re writing. For example page 8 line 3-7. This section has been reviewed for sentence length and revised where appropriate.

8c. The results would have been more strong if the effect size was reported which would be possible by fitting ordered logistic regression rather than ANOVA
The authors appreciate this suggestion. However given that continuous nature of the key outcome measures of job satisfaction, psychological wellbeing, and burnout, ANOVA was chosen to full utilize all of the data.

8d. In the tables p values need to be maximum three decimal places and there is no need to make the significant associations bold
The table p-values have been revised to three decimal places and bolding has been removed.

9. Discussion. The discussion section compares the findings mainly with the previous national survey. The results of this study need to be well situated with the existing evidence in the area. Please see the response to Reviewer 1, Question 3 above.

10. Conclusion. I don't think there is a need to say in ability to determine the direction of causality is the limitation of this study. Since it is cross sectional it is obvious that one cannot tell about the direction of causality.
We appreciate the reviewers comment, but have retained this sentence in to ensure this limitation is explicit to readers less familiarity with study design limitations.

VERSION 2 – REVIEW

REVIEWER	Natasha Khamisa Monash South Africa
REVIEW RETURNED	19-Jan-2018
GENERAL COMMENTS	Significant improvement noted - however still lacks understanding of theoretical framework and it's relevance in interpreting findings. Nonetheless, valuable research especially within the African context.

VERSION 2 – AUTHOR RESPONSE

Dear Hemali Bedi-

Thanks for your review of this manuscript and recommendation to publish. We have edited the manuscript as requested, details below.

Cheers,
Nora

1. Editorial Requirements:

Please add a description of the generalisability of the results to the discussion section, as per the requirements of the STROBE checklist. Generalisability describes the extent to which research findings can be applied to settings other than that in which they were originally tested.

The following information on generalizability has been added to the discussion section on page 10:
“Given the representative nature of the study, the results are likely generalizable to public health workforces in other low- and middle- income countries.”

2. Reviewer(s)' Comments to Author:

Reviewer: 1

Significant improvement noted - however still lacks understanding of theoretical framework and it's relevance in interpreting findings. Nonetheless, valuable research especially within the African context.

We thank the review for noting the efforts put into this first revision. Additional information on theoretical frameworks around stress, burnout, and job satisfaction have been added to the Introduction section on page 1 and the Discussion section on page 9.