# PEER REVIEW HISTORY

## ARTICLE DETAILS

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| **TITLE (PROVISIONAL)** | Detection and treatment initiation for depression and alcohol use disorders: facility-based cross-sectional studies in five low- and middle-income country districts |
| **AUTHORS** | Rathod, Sujit; Roberts, Tessa; Medhin, Girmay; Murhar, Vaibhav; Samudre, Sandesh; Luitel, Nagendra; Selohilwe, One; Ssebunnya, Joshua; Jordans, MJ; Bhana, Arvin; Petersen, I.; Kigozi, Fred; Nakku, Juliet; Lund, Crick; Fekadu, Abebaw; Shidhaye, Rahul |

## VERSION 1 – REVIEW

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| **REVIEWER** | Edinilza Ribeiro dos Santos |
| | Position: Professor Institution: University of the State of Amazonas Country: Brazil |
| **REVIEW RETURNED** | 01-May-2018 |

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| **GENERAL COMMENTS** | This is a cross-sectional study involving populations from five low- and middle-income countries – LMIC (Ethiopia, India, Nepal, South Africa and Uganda), which is part of the consortium of multi-national research programs (PRIME). Its main objective is "to measure the level of clinical detection and treatment initiation for depression and for AUD [alcohol use disorder] among adult attendees of primary health care facilities in five low- and middle-income country districts". Although the description of the method is complex, due to the differences regarding the local health systems and clinical care of each country involved, the authors present a text about the procedures of data collection with clarity, using very didactic tables. While the proportion of positive screening cases varied between 4.2 and 20.1% for depression and between 1.2 and 16.4% for AUD, the proportion of clinical detection ranged from 0% to 11.7% and from 0 % to 7.8% respectively for depression and AUD. The authors conclude that the findings are potential contributors to the low rates of detection and treatment of mental disorders in LMICs and show that primary care units remain lacking in interventions capable of reducing the burden of disease in these countries.<br><br>The study brings a relevant contribution to the field of the epidemiology of mental disorders and disorders caused by the use of alcohol in LMIC populations.<br><br>I present below some aspecte that the authors may wish to consider:<br><br>Objective<br>- Line 5/6 page 4; 52/53 page 6: it seems to me that it is more appropriate to use the term "proportion" rather than "level" (level refers to the idea of a classification, not the results of this manuscript).<br>- Concerning the title, the description of the methods and the results, |

| | "to describe the methods and baseline findings" is not, in my view, an objective. The main goal is suffice (line 53/56 page 6). |
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| | Method |
| | - As explained in lines 16 – 18 on page 12 of this study, the sampling procedures and recruitment of participants varied considerably, so the choice of random selection for a representative sample was not possible in all countries included in the current research. This a limitation of this study. |

| REVIEWER | Weng Yee CHIN The University of Hong Kong, Hong Kong |
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| REVIEW RETURNED | 03-May-2018 |

| GENERAL COMMENTS | This was a multi-centre, multi-country study to examine the prevalence of screened PHQ-9 positive depression and AUDIT positive alcohol use. This paper presents the baseline findings of a cohort study designed to measure changes in detection and treatment levels of a mental health intervention to upscale the training and provision of community-based mental health services in the 5 countries studied. The authors of this large multi-nation study should be congratulated for their collaborative efforts to explore this important public health problem. |
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| | The strengths of the study include their use of WHO-driven guidelines to frame their research objectives, the use of standardised but locally flexible protocols to standardise subject selection and data collection, with sufficient flexibility to allow feasibility in the various settings, use of the same validated instruments for screening and large (and sufficiently powered) sample sizes with high recruitment and data completion rates. |
| | The study methodology is adequately documented for each site, with the limitations of each recruitment process detailed in the discussion. Even though the methods were not identical at each site, and sampling in some centres may potentially have greater bias, this is acknowledged and taken into consideration. |
| | To strengthen the paper, the authors could include more information on: |
| | 1. As this study examines health profession behaviours with respect to diagnosis and management, it would be useful to have more information about the roles of the primary providers in each setting would be useful–e.g. it is unclear whether Health Officers are doctors, nurses or allied health providers. Also, in most settings, it would not be expected of Health Assistants (who are usually trained lay personnel) to diagnosis or treat of newly diagnosed health conditions. |
| | 2. As many of the health care settings are maternal and child health settings, whether provider would consider post-partum depression as 'depression' and whether a conservative watchful waiting whether the managed differently to a major depressive disorder |
| | 3. It would be more informative to have a table showing the sub group analysis of depression/ AUD detection and management by health care provider type |
| | 4. The results of tables 5 and 7 needs to be discussed. The discussion should include a comparison of the findings across the different settings, with an explanation for the large range in screen-positive depression and AUD prevalence across the 5 countries. |

| REVIEWER | Jorge Calderon |
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| | Department of Psychiatry Pontificia Universidad Católica de Chile |
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| **REVIEW RETURNED** | 02-Jul-2018 |

| **GENERAL COMMENTS** | The present study estimates the level of clinical detection and treatment initiation for depression and AUD in low and middle income country settings, where no data is available. This study is part of a multi-country research program consortium. It is, therefore, a relevant study that might help to inform future interventions in mental health disorders in LMIC. The manuscript is carefully written and describes with details its methodology. Limitations are stated by the author, which probably precludes sound comparisons between countries, such as sample selection, differences in gender, level of education, presence of chronic diseases, co-morbidity between depression and AUD. This might be worth mentioning provided that strategies for improving detection may be different in each country. |
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## VERSION 1 – AUTHOR RESPONSE

| Reviewer: 1 | Author response |
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| Reviewer Name: Edinilza Ribeiro dos Santos | |
| Position: Professor | |
| Institution: University of the State of Amazonas | |
| Country: Brazil | |

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| This is a cross-sectional study involving populations from five low- and middle-income countries – LMIC (Ethiopia, India, Nepal, South Africa and Uganda), which is part of the consortium of multi-national research programs (PRIME). Its main objective is "to measure the level of clinical detection and treatment initiation for depression and for AUD [alcohol use disorder] among adult attendees of primary health care facilities in five low- and middle-income country districts". Although the description of the method is complex, due to the differences regarding the local health systems and clinical care of each country involved, the authors present a text about the procedures of data collection with clarity, using very didactic tables. While the proportion of positive screening cases varied between 4.2 and 20.1% for depression and between 1.2 and 16.4% for AUD, the proportion of clinical detection ranged from 0% to 11.7% and from 0 % to 7.8% respectively for depression and AUD. The authors conclude that the findings are potential contributors to the low rates of detection and treatment of mental disorders in LMICs and | We thank the reviewer for raising these important points. We have prepared a response to each of these points and have described the revisions in the manuscript below. |

show that primary care units remain lacking in interventions capable of reducing the burden of disease in these countries.

The study brings a relevant contribution to the field of the epidemiology of mental disorders and disorders caused by the use of alcohol in LMIC populations.

I present below some aspecte that the authors may wish to consider:

| Objective | We have revised the text in both locations to state that this study was designed "**To estimate the proportion of adult primary care outpatients who are clinically detected and initiate treatment for depression and alcohol use disorder (AUD) in low- and middle-income country (LMIC) settings.**" |
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| - Line 5/6 page 4; 52/53 page 6: it seems to me that it is more appropriate to use the term "proportion" rather than "level" (level refers to the idea of a classification, not the results of this manuscript). | |
| - Concerning the title, the description of the methods and the results, "to describe the methods and baseline findings" is not, in my view, an objective. The main goal is suffice (line 53/56 page 6). | We agree that this is not an objective and have deleted this text. |
| Method | We agree that this is a limitation. |
| - As explained in lines 16 – 18 on page 12 of this study, the sampling procedures and recruitment of participants varied considerably, so the choice of random selection for a representative sample was not possible in all countries included in the current research. This a limitation of this study. | In the Discussion section we have clarified the limitation relating to random selection: "Second, non-random sampling was used to select patients in some countries. While the samples may not be representative of the facility-attending population, the same sampling plan will be used in follow up rounds, enabling valid comparisons for the study's primary findings." |
| Reviewer: 2<br><br>Reviewer Name: Weng Yee CHIN<br><br>Institution and Country: The University of Hong Kong, Hong Kong | Author response |
| This was a multi-centre, multi-country study to examine the prevalence of screened PHQ-9 positive depression and AUDIT positive alcohol use. This paper presents the baseline findings of a cohort study designed to measure changes in | We thank the reviewer for these helpful suggestions to strengthen the paper and have described our revisions below. |

detection and treatment levels of a mental health intervention to upscale the training and provision of community-based mental health services in the 5 countries studied. The authors of this large multi-nation study should be congratulated for their collaborative efforts to explore this important public health problem.

The strengths of the study include their use of WHO-driven guidelines to frame their research objectives, the use of standardised but locally flexible protocols to standardise subject selection and data collection, with sufficient flexibility to allow feasibility in the various settings, use of the same validated instruments for screening and large (and sufficiently powered) sample sizes with high recruitment and data completion rates.

The study methodology is adequately documented for each site, with the limitations of each recruitment process detailed in the discussion. Even though the methods were not identical at each site, and sampling in some centres may potentially have greater bias, this is acknowledged and taken into consideration.

| To strengthen the paper, the authors could include more information on: | We have clarified that the providers listed in Table 1 were, in fact, the cadres expected to detect and treat mental health conditions: "The choice of included clinics was determined by the availability of staff who were planned to have authority to detect/ diagnose, prescribe and/or refer for depression and AUD, which, per the respective country's mental healthcare plan included clinics with health officers, medical officers, health assistants and auxiliary health workers, nurses and doctors." |
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| 1.      As this study examines health profession behaviours with respect to diagnosis and management, it would be useful to have more information about the roles of the primary providers in each setting would be useful–e.g. it is unclear whether Health Officers are doctors, nurses or allied health providers. Also, in most settings, it would not be expected of Health Assistants (who are usually trained lay personnel) to diagnosis or treat of newly diagnosed health conditions. | |
| 2.      As many of the health care settings are maternal and child health settings, whether provider would consider post-partum depression as 'depression' and whether a conservative watchful waiting whether the managed differently to a major depressive disorder | In this baseline survey we found that providers were not making many depression diagnoses, regardless of pregnancy status.

Subsequent to this baseline surveys the providers received training in detection and treatment, using material adapted from WHO mhGAP guidelines. These guidelines do not distinguish between depression and post-partum |

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| | depression, though do require the provider to consider whether there are alternative/physical explanations for the symptoms. The patient must have experienced significant impairment with two weeks of mood-related symptoms, which precludes transient phenomena arising post-partum. |
| 3. It would be more informative to have a table showing the sub group analysis of depression/ AUD detection and management by health care provider type | Unfortunately, the data in this baseline survey were too sparse for sub-group analysis: the maximum number of diagnoses were for depression in Ethiopia, with 12 cases! |
| | This is an excellent suggestion for our follow up survey data, when it is our hope to have many more diagnoses for analysis. |
| 4. The results of tables 5 and 7 needs to be discussed. The discussion should include a comparison of the findings across the different settings, with an explanation for the large range in screen-positive depression and AUD prevalence across the 5 countries. | We have revised the 2nd paragraph of the Discussion to add points regarding Tables 1 and 5: "The detection figures observed here are substantially lower than the average figures found by Mitchell et al. for detection of depression (47%) and for AUD (42%) by primary care providers in high income countries.[13,14] As studies of clinical detection in LMIC settings were not available for these meta-analyses, this study fills a key gap in our understanding of the detection gap globally. The consistency of findings across these 5 diverse settings likely provides insight across LMIC settings generally. The health service organisations in this study varied considerably in catchment size, services offered and provider types (Table 1), and facility attendees varied considerably by age, sex, educational attainment and symptom severity (Table 5). Yet detection was consistently poor. These findings provide insight into how the population-level treatment gap in LMIC is at least partially attributable to a facility-level detection gap." |
| | We have added a limitation regarding the interpretation of Table 5: "And, given the non-random sampling and use of screening tools it is not appropriate to interpret the proportions of participants who screen positive as prevalence figures for cross-country comparisons." |

Regarding Table 7, we have revised the following paragraph: "We plan to repeat this survey in each of the implementation sites. By comparing the baseline versus follow-up figures within each country, we will be able to determine whether the level of detection and level of initiation of evidence-based treatment for depression and for AUD has increased after implementing mental health care plans. Further to this we will compare the change in detection among probable non-cases (Table 7), which is an indicator of inappropriate diagnosis; district health manager can use two detection figures to recalibrate their training and supervision systems. Also using follow up data, we will be able to assess whether the improved detection and improved treatment provision among probable cases is equitable by age, sex and other socio-economic factors. And, with the help of Theory of Change framework and process evaluation data collected over the implementation phase,[17] we will try to explain the reasons for improvement/non-improvement of detection and initiation of treatment for depression and for AUD, along identifying with the factors relating to detection.

| Reviewer: 3 | Author response |
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| Reviewer Name: Jorge Calderon<br><br>Institution and Country:<br><br>Department of Psychiatry<br><br>Pontificia Universidad Católica de Chile | |
| The present study estimates the level of clinical detection and treatment initiation for depression and AUD in low and middle income country settings, where no data is available. This study is part of a multi-country research program consortium. It is, therefore, a relevant study that might help to inform future interventions in mental health disorders in LMIC. The manuscript is carefully written and describes with details its methodology. | We appreciate this reviewer's comments, and our responses are below. |
| Limitations are stated by the author, which probably precludes sound comparisons between countries, such as sample selection, differences in gender, level of education, presence of chronic diseases, co-morbidity between depression and AUD. This might be worth mentioning provided that strategies for improving detection may be | We have added the following sentences to the Discussion: "The consistency of findings across these 5 diverse settings likely provides insight across LMIC settings generally. The health service organisations in this study varied considerably in catchment size, services offered and provider types (Table 1), and facility |

different in each country.

attendees varied considerably by age, sex, educational attainment and symptom severity (Table 5).

and "As each country developed its own Theory of Change framework, it will be possible to contrast five frameworks with five sets of follow-up findings, and then to identify the essential characteristics of an effective strategy to improve detection."