

## 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

<b>TITLE (PROVISIONAL)</b>	Non pharmacological interventions for prevention of hypertension in low and middle income countries: Protocol for a systematic review and meta-analysis
<b>AUTHORS</b>	Rahman, K M Saif Ur; Hasan, Md.; Hossain, Shahed; Shafique, Sohana; Khalequzzaman, Md.; Haseen, Fariha; Rahman, Aminur; Anwar, Iqbal; Islam, Syed

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Ashna D K Bowry St Michael's Hospital University of Toronto Canada
<b>REVIEW RETURNED</b>	11-Dec-2017

<b>GENERAL COMMENTS</b>	<p>This is indeed an important topic and timely. The introduction details the prevalence of hypertension in LMIC and its importance but not about the evidence supporting the preventative measures and how this would impact hypertension in LMIC. So the purpose of this paper is undefined. The choice of some secondary outcomes e.g. kidney stone formation, iron deficiency anemia is unclear. The protocol is not detailed enough to replicate e.g.. settings, exclusion criteria. Paper requires proof-reading for grammar, spelling and to remove repetitive sentences e.g. "data extraction by two reviewers... settled by third reviewer..."</p> <p>Overall, this paper describes how to do a systemic review but needs to be made more specific to the subject being researched.</p>
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<b>REVIEWER</b>	Tamara Lotfi American University of Beirut, Lebanon
<b>REVIEW RETURNED</b>	22-Dec-2017

<b>GENERAL COMMENTS</b>	<p>This is a systematic review protocol. The authors followed the PRISMA-P items and provided the PRISMA-P checklist. The authors described the the methodology they will follow which is compatible to standards. One recommendation would be to explain how they will assess the quality of included studies (mention the tool that they will use) that they mentioned they plan to conduct in addition to the Risk of Bias and the GRADing of the evidence.</p>
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<b>REVIEWER</b>	Dr. Ahmed M. Sarki Oxford Brookes University, United Kingdom
<b>REVIEW RETURNED</b>	11-Jan-2018

<b>GENERAL COMMENTS</b>	<p>Overall, this is a very relevant systematic review and the findings will be useful for informing appropriate non-pharmacological interventions for hypertension.</p> <p>The manuscript could benefit from an improvement in grammar. Please pay attention to the following examples:</p> <p>a) line 44-45 the following two sentences appear incomplete and disjointed "Appropriate critical appraisal tools including Cochrane Handbook for Systematic Reviews of Interventions. Risk of bias will be judged", these need revising</p> <p>b) line 128 "Despite of different approaches",</p> <p>c) line 160 "Interventions will be including lifestyle modification",</p> <p>d) line 195 "comparison and outcome are as follow:",</p> <p>e) line 247 "Loose to follow up".</p> <p>From line 221-222, I guess the statement should read "Screening of title and abstract of retrieved articles will be conducted by two reviewers independently to identify studies eligible for inclusion".</p> <p>There should also be consistency in using terms, for example PubMed and pubmed, low- and middle-income countries as opposed to low and middle income countries.</p> <p>Under the heading 'Strategy for Data Synthesis', The authors should state clearly the potential method for assessing publication bias. The authors should also state what random-effects model will be used for pooling the included studies.</p> <p>The authors should also expand the possible limitations of the review.</p>
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### VERSION 1 – AUTHOR RESPONSE

Reviewer(s)' Comments to Author:

Reviewer: 1

Reviewer Name: Ashna D K Bowry

Institution and Country: St Michael's Hospital, University of Toronto, Canada

Please state any competing interests: None Declared

Please leave your comments for the authors below

This is indeed an important topic and timely.

The introduction details the prevalence of hypertension in LMIC and its importance but not about the evidence supporting the preventative measures and how this would impact hypertension in LMIC. So the purpose of this paper is undefined.

Response: Evidence supporting preventive measures was provided in line 125-133. In the revised manuscript, the impact of such preventive interventions in LMICs has been added in line 126-131. (Changes in life style variables, along with other non-pharmacological interventions may play an important role to halt increasing trend in the prevalence of hypertension in LMICs where there is a scarcity of programs for prevention and control of high blood pressure. Prevention of onset of

hypertension with such intervention is evident and will contribute to reduce the premature mortality and disability related to hypertension in this region.)

The choice of some secondary outcomes e.g. kidney stone formation, iron deficiency anemia is unclear.

Response: The secondary outcomes were set to develop a comprehensive search strategy based on PICO (population, intervention, comparison and outcome). Kidney stone, iron deficiency anemia etc are complication/consequences of hypertension and thus included in the search strategy.

The protocol is not detailed enough to replicate e.g.. settings, exclusion criteria.

Response: Study settings and exclusion criteria are described in detail (Line 175-176 and line 184-190)

Paper requires proof-reading for grammar, spelling and to remove repetitive sentences e.g. "data extraction by two reviewers... settled by third reviewer..."

Response: We have tried to remove repetitive sentences and improve the grammar.

Overall, this paper describes how to do a systemic review but needs to be made more specific to the subject being researched.

Response: In the revised protocol we have tried to be more specific to the research subject-area, "prevention of hypertension".

Reviewer: 2

Reviewer Name: Tamara Lotfi

Institution and Country: American University of Beirut, Lebanon

Please state any competing interests: None declared

Please leave your comments for the authors below

This is a systematic review protocol.

The authors followed the PRISMA-P items and provided the PRISMA-P checklist.

The authors described the methodology they will follow which is compatible to standards.

One recommendation would be to explain how they will assess the quality of included studies (mention the tool that they will use) that they mentioned they plan to conduct in addition to the Risk of Bias and the GRADing of the evidence.

Response: The quality assessment will be conducted using the Critical Appraisal Skills Program (CASP) checklist for randomized controlled trials. (Line 244-245)

Reviewer: 3

Reviewer Name: Dr. Ahmed M. Sarki

Institution and Country: Oxford Brookes University, United Kingdom

Please state any competing interests: None declared

Please leave your comments for the authors below

Overall, this is a very relevant systematic review and the findings will be useful for informing appropriate non-pharmacological interventions for hypertension.

The manuscript could benefit from an improvement in grammar. Please pay attention to the following examples:

a) line 44-45 the following two sentences appear incomplete and disjointed "Appropriate critical appraisal tools including Cochrane Handbook for Systematic Reviews of Interventions. Risk of bias will be judged", these need revising

b) line 128 "Despite of different approaches",

c) line 160 "Interventions will be including lifestyle modification",

d) line 195 "comparison and outcome are as follow:",

e) line 247 "Loose to follow up".

Response: Corrected accordingly and mentioned in the specific lines

From line 221-222, I guess the statement should read "Screening of title and abstract of retrieved articles will be conducted by two reviewers independently to identify studies eligible for inclusion".

Response: Corrected accordingly and mentioned in the specific lines

There should also be consistency in using terms, for example PubMed and pubmed, low- and middle-income countries as opposed to low and middle income countries.

Response: Corrected accordingly and mentioned in the specific lines

Under the heading 'Strategy for Data Synthesis', The authors should state clearly the potential method for assessing publication bias. The authors should also state what random-effects model will be used for pooling the included studies.

Response: Publication bias assessment has been described in line 284-286 (We will also assess the included articles for potential publication bias through generating a funnel plot using review manager software (RevMan).) The random effect model of meta analysis will be used for pooling included studies (line 281-282)

The authors should also expand the possible limitations of the review.

Response: Possible limitation has been expanded in the strength and limitations section.

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#### VERSION 2 – REVIEW

<b>REVIEWER</b>	Ahmed M. Sarki Oxford Brookes University
<b>REVIEW RETURNED</b>	14-Mar-2018
<b>GENERAL COMMENTS</b>	The author's have adequately responded to the reviewer's comments.
<b>REVIEWER</b>	Tamara Lotfi American University of Beirut, Lebanon
<b>REVIEW RETURNED</b>	15-Mar-2018
<b>GENERAL COMMENTS</b>	This is a Protocol for a systematic review. All PRISMA items are provided clearly. No further changes.