

# BMJ Open Voices from low-income and middle-income countries: a systematic review protocol of primary healthcare interventions within public health systems addressing intimate partner violence against women

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## ABSTRACT

**Introduction** Intimate partner violence (IPV) considerably harms the health, safety and well-being of women. In response, public health systems around the globe have been gradually implementing strategies. In particular, low-income and middle-income countries (LMIC) have been developing innovative interventions in primary healthcare (PHC) addressing the problem. This paper describes a protocol for a systematic review of studies addressing the impacts and outcomes of PHC centre interventions addressing IPV against women from LMIC.

**Methods and analysis** A systematic search for studies will be conducted in African Index Medicus, Africa Portal Digital Library, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Embase, Index Medicus for the Southeast Asia Region, IndMed, Latin American and Caribbean Health Science Literature Database (LILACS), Medecins Sans Frontieres, MEDLINE, Minority Health and Health Equity Archive, ProQuest, PsycINFO, Scientific Electronic Library Online, (SciELO) and Social Policy and Practice. Studies will be in English, Spanish and Portuguese, published between 2007 and 2017, addressing IPV against women from LMIC, whose data quantitatively report on the impacts and outcomes for survivors and/or workers and/or public health systems preintervention and postintervention. Two trilingual reviewers will independently screen for study eligibility and data extraction, and a librarian will cross-check for compliance. Risk of bias and quality assessment of studies will be measured according to: (1) the Cochrane Collaboration's tool for assessing risk of bias for randomised controlled trials and (2) the Methodological Index for Non-Randomised Studies (MINORS). Data will be analysed and summarised using meta-analysis and narrative description of the evidence across studies. This systematic review will be reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA P) guidelines.

**Ethics and dissemination** This systematic review will be based on published studies, thus not requiring ethical approval. Findings will be presented in conferences and published in a peer-reviewed journal.

## Strengths and limitations of this study

- The comprehensive search strategy of this systematic review will allow identification of a range of interventions from different low-income and middle-income countries (LMIC) published in peer-reviewed journals in English, Spanish and Portuguese.
- This protocol is coauthored by researchers from LMIC, who are native speakers of the languages included in this systematic review. This can strengthen the review process given linguistic and cultural aspects of the diverse studies will be recognised.
- The review intends to promote voices from LMIC, who otherwise may go unheard, given relative financial barriers of LMIC research institutions and the publication bias to English.
- It is expected that there will be some variability related to methodological diversity and outcomes of the reviewed studies, due to the broad scope of primary healthcare interventions addressing intimate partner violence, making it challenging to compare outcomes across different scenarios.

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## INTRODUCTION

Intimate partner violence (IPV) is the most prevalent type of violence against women.<sup>1,2</sup> WHO estimates that one in three women experience physical or sexual IPV during their lifetime.<sup>1</sup> IPV against women is defined by WHO as any behaviour within an intimate relationship that causes physical damage, psychological or sexual abuse to a woman in the relationship, including physical assault, psychological abuse, forced intercourse and other forms of sexual coercion and of controlling behaviours.<sup>2</sup>

The consequences of IPV for women's health have been extensively described, demonstrating that abused women have poorer health compared with women who have never been abused.<sup>3 4</sup> There are a wide range of consequences including: (1) physical health, such as injuries, traumas, cardiovascular effects<sup>5</sup>; (2) mental health, including depression, anxiety, post-traumatic stress disorder (PTSD), alcohol and drug abuse and suicide<sup>6</sup> and (3) sexual and reproductive health, including sexually transmitted diseases (STD), miscarriage, reduced contraception and sexual autonomy.<sup>7</sup> The consequences are for women and for their children, including increased risk for low birth weight, preterm delivery and neonatal death.<sup>7</sup>

IPV against women is a common problem all over the world, but multicountry studies, such as the one developed by WHO,<sup>3</sup> which compared 10 different income range countries, reveal higher prevalence and the worst consequences for women from low-income and middle-income countries (LMIC).<sup>3</sup> The World Bank classifies all countries by income, based on the gross national income (GNI) per capita per year.<sup>8</sup> This review comprises the LMIC, which are the countries with a GNI per capita  $\leq$ US\$12 475 per year, as of March, 2017.

IPV has been recognised as a public health issue and included in the agendas of public health systems worldwide.<sup>2</sup> WHO Sustainable Development Goal number 5 aims to achieve gender equality and empower all women and girls. It includes two subitems targeting violence specifically: 5.1 'End all forms of discrimination against all women and girls everywhere'; and 5.2 'Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation'.<sup>9</sup> The World Health Assembly in 2016 recommended actions,<sup>10</sup> such as: strengthening health system leadership to prevent interpersonal violence and improving health workers'/ providers' capacity to respond to violence, in particular against women and children.

Each country responds differently to the problem in the health arena, and exchanging experiences can be a significant opportunity to foster local debate and action.<sup>11</sup> This systematic review focuses on experiences conducted within public health systems, and more specifically, in primary healthcare (PHC) setting. Public health systems consist of systems provided and/or funded by governments aiming to promote the health of their citizens, considering health as a human right.<sup>12 13</sup> Public health systems intend to ensure that everyone has access to appropriate, efficient and quality health services, aiming for equity of access to health services for all populations.<sup>14</sup> Public health systems can have a crucial role in a multi-sector response to IPV, but it requires changes in the systems, coordinated planning and actions, for example, targeting different levels of care, such as PHC.<sup>15</sup>

PHC can be considered both a philosophy and a system response to reducing health inequities and ameliorating the effects of disadvantage.<sup>16</sup> PHC is the

first level of contact individuals, families and communities have with the healthcare system.<sup>17</sup> As it has a broad scope, in this study we adopt a more recent definition of PHC, consisting of 'a socially appropriate, universally accessible, scientifically sound first level care provided by health services and systems with a suitably trained workforce comprised multidisciplinary teams supported by integrated referral systems in a way that: gives priority to those most in need and addresses health inequalities; maximises community and individual self-reliance, participation and control and involves collaboration and partnership with other sectors to promote public health'.<sup>18</sup>

Globally, numerous LMIC are developing innovative interventions addressing IPV against women with a focus on PHC.<sup>19</sup> However, some of these interventions may go unnoticed by mainstream researchers from high-income countries. Our hypothesis is that this could be related to different factors, such as: (1) the high costs for the development of complex interventions considered the gold standard of research (eg, randomised controlled trials; RCTs); (2) high publication costs in prestigious academic journals, accompanied by high standards which are difficult to achieve by LMIC researchers given scarce resources and (3) linguistic barriers, as writing papers in English—the dominant language for publication in prestigious journals of high-income countries—can be very expensive for non-English speaking researchers. However, such interventions developed in LMIC are not necessarily low-quality studies. Indeed, they can be scalable and generalisable, affording insights for public health systems in other contexts, including both high-income countries and LMIC.

While previous reviews have been published in this area, they are either not systematic reviews,<sup>20 21</sup> or if systematic, did not focus solely on LMIC.<sup>22</sup> Or if focusing on LMIC, did not target specifically health systems nor PHC.<sup>23</sup> Moreover, none of the extant systematic reviews include studies in Spanish or Portuguese, nor searched regional databases for literature. Thus, this will be the first systematic review addressing IPV interventions in PHC from LMIC to include studies in English, Spanish and Portuguese, retrieved from, among others, regional databases.

The focus of this systematic review on PHC rather than the whole health system, because PHC is usually the first point of entrance for women in the health system, especially in LMIC. From our previous studies<sup>24–26</sup> and the literature,<sup>22</sup> we noticed that PHC approaches to deal with IPV have some particularities, which are different from other levels of care, such as hospital settings, for example. The routines, professional training and strategies to prevent or reduce IPV can be very different across different levels of care, especially regarding low-income and middle-income contexts.<sup>21 23</sup> Consequently, the target of this review on PHC is to bring visibility to strategies conducted in this specific level of care, which is the least expensive and with greatest coverage.<sup>27–29</sup> We consider that this is of particular interest for LMIC, that could have an opportunity

to manage the problem in the PHC system, with fewer resources and covering more people, compared with other levels of care. We believe that evidence from interventions developed within primary health systems from certain LMIC could provide reflections to support public health policy-makers and managers to implement feasible interventions in greater scale and/or other countries.

## REVIEW QUESTIONS

1. To what extent do PHC interventions within public health systems improve the health, safety and well-being of women survivors of IPV in LMIC?
2. What are the main impacts and outcomes of these interventions for PHC workers' practices and the sustainability of these practices for public health systems?

## OBJECTIVES

To conduct a systematic review of quantitative studies focusing on PHC interventions in LMIC, with the aim of prevention or reduction of IPV alongside the improvement of survivors' health, safety and well-being.

## METHODS

This systematic review will be conducted and reported according to the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA-P),<sup>30,31</sup> which includes the use of the PRISMA-P checklist (see online supplementary appendix 1), following methodological approaches published in previous studies.<sup>32</sup> The review will be published according to the recommended items for systematic reviews based on the PRISMA statement.<sup>32</sup> This review will also be informed by the guidelines of the Cochrane Handbook<sup>33</sup> for systematic reviews of interventions to reinforce rigour along the process.

### Study registration

This systematic review is registered in the International Prospective Register of Systematic Reviews with number CRD42017069261 ([http://www.crd.york.ac.uk/PROSPERO/display\\_record.asp?ID=CRD42017069261](http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42017069261)).

### Types of studies

In this review, we will include studies with quantitative pre-evaluation and postevaluation concerning PHC interventions of IPV against women from LMIC developed within their respective public health systems. For the purposes of this review, we will consider interventions as proposed by Blankenship *et al.*<sup>34</sup> consisting on actions generally taken by outsiders (often read experts), but including individuals and collectives who take actions on their own behalf, purposefully to address a particular risk or disease. This can include individual interventions (focused on individuals' knowledge, attitudes and behaviours) or structural interventions (aiming to change structural factors, such as economic, political, legal,

physical and social environment). The interventions can include the following experimental and quasi-experimental approaches: RCT, non-RCT and quasi-experimental, and include pre-post designs. We will not include observational studies, qualitative methodologies or prevalence studies.

We license the inclusion of a broad type of interventions by acknowledging the relatively poor funding allotted to research in LMIC. While cognisant that RCTs, for example, are the gold standard in research, and further, that the Cochrane Collaboration largely recommends methodologically randomised studies to be the focus of review, we argue that filtering solely for such studies would miss many interventions employed in LMIC—the economic capital in LMIC simply does not allow for it. Given our aim is to 'hear voices for the LMIC,' and encouraged by the Cochrane's recognition that non-RCTs may be more appropriate at times,<sup>33</sup> our approach is expansive.

### Types of participants and settings

We recognise that the definition of PHC can be very complex, and subject to conceptual debate. For the purpose of this review, we will include any health-care facility considered as a PHC centre, but restricted to public health services from LMIC. WHO<sup>35</sup> defines PHC centre as centres providing services which are usually the first point of contact with a health professional. They include services provided by general practitioners, dentists, community nurses, pharmacists and midwives, among others. It can include, for example, General Practice Clinics, Community-Based Units, Basic Health Units, Family Health Strategy, Primary Care Home Visits, Day-Care Centres, Multicentre Health Clinics and One Stop Crisis Centre. This review will not include studies of interventions conducted outside of PHC centres and from the public health systems, such as media campaigns, interventions in schools or in hospitals, which are considered tertiary level of care.

Interventions in PHC for IPV usually focus on workers' strategies to improve survivors' health. This can include healthcare professionals, paraprofessionals, managers and other workers, like receptionists, for example. By 'survivors'<sup>10</sup> we mean any adult women older than 16 years old affected by IPV and part of the population of an intervention of PHC centres from LMIC. This review will target interventions addressed to adult women, because of their particularities, approaches and outcomes, which may be different from those targeting children. The impacts of interventions for children will not be excluded, but they can provide additional information. Consequently, the impact on children will be included in secondary outcomes.

### Intervention(s), exposure

The types of interventions may include: studies about implementation of public policies to reduce/prevent IPV targeting PHC centres; education/training of PHC workers to manage IPV survivors; screening or case-finding

IPV in PHC settings; strategies for organisational changes in PHC centres aiming to improve survivors' health, safety or well-being; therapeutic interventions for IPV focused in PHC centres.

### Comparator(s)/control

Studies with all types of control conditions will also be included in this review, including no treatment group, treatment as usual or comparison. We will not limit our review only to studies that compare active interventions with a control condition.

### Types of outcomes measures

#### Primary outcomes

Primary outcomes will include the impacts and outcomes of the intervention for: (1) IPV measured by validated instruments (such as the Composite Abuse Scale,<sup>36</sup> Index of Spouse Abuse,<sup>37</sup> etc) or self-reported IPV (even if adopting unvalidated scale); (2) women's perceived and diagnosed physical, psychological or sexual health and well-being, using validated instruments for each domain (such as General Health Questionnaire,<sup>38</sup> Center for Epidemiologic Studies Depression Scale (CESD),<sup>39</sup> PTSD Checklist,<sup>40</sup> the 36-item Short-Form Health Survey,<sup>41</sup> etc); (3) women's safety, adopting validated or unvalidated measures (such as safety plans, danger assessment,<sup>42</sup> etc) and (4) PHC workers' practices that may include identification of abuse by workers; information giving or safety planning and referral to other services within the public health system (such as hospitals, emergency settings, etc) or to other services beyond the public health (such as family violence support agencies, police, justice, housing, etc).

#### Other outcomes (secondary outcomes)

Secondary outcomes will include the impacts and outcomes of the intervention for: (1) children's health and well-being, considering intimate partner abuse also affects children, assessments through validated instruments regarding children's health and well-being will also be reviewed (such as Child Health Questionnaire,<sup>43</sup> etc); (2) changes in public health systems' policies and practices, considering policies about system and worker responses; training programmes in place; routine data collection; guidelines for workers; funding allocation and cost/benefit measures; and sustainability, considering for this analysis only follow-up evaluations conducted no less than 12 months after the conclusion of the intervention.

### Search strategy

A systematic search will be conducted for literature published between 1 January 2007 and 31 July 2017. We choose this time range given the first multicountry study addressing our question in the context of LMIC was published in 2006<sup>3</sup>.

The following databases will be searched: African Index Medicus, Africa Portal Digital Library, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Embase, Index Medicus for the Southeast Asia Region,

IndMed, Latin American and Caribbean Health Science Literature Database (LILACS), Medecins Sans Frontieres, Medline, Minority Health and Health Equity Archive, ProQuest, PsycINFO, Scientific Electronic Library Online (SciELO), Social Policy and Practice.

This review considers studies published in English, Spanish and Portuguese, given these are the official languages of 69 of the 145 LMIC (World Bank). Earlier systematic reviews<sup>23</sup> concerning interventions to IPV in LMIC did not consider articles in languages other than English. This review team consists of authors native in the three languages included, minimising bias related to language. Accordingly, keywords and medical subject headings (MeSH) will be translated from English by author 1 and reviewed by authors 3 (to Portuguese) and 4 (to Spanish).

Authors 1 and 2 independently consider keywords and MeSH headings. Any discrepancies are subjected to justification. The general search strategy is shown in online supplementary appendix 2, and will be adapted and modified appropriately according to each database.

### Data collection and analysis

#### Eligibility criteria of the studies

The inclusion criteria will be:

1. Studies from the eligible bibliographical databases with selected (combination of) terms and keywords (online supplementary appendix 2).
2. Peer-reviewed articles published in English, Spanish or Portuguese
3. Studies published between 2007 and 2017.
4. Interventions related to IPV conducted in PHC centres within the public health systems from LMIC.
5. Quantitative prestudies and poststudies assessing the impacts and outcomes for survivors (adult women) and/or workers and/or public health systems.
6. Primary data collection or existing data set analysis.

The exclusion criteria will be:

1. Studies published in languages other than English, Spanish or Portuguese.
2. Interventions from non-LMIC or not conducted in PHC centres or conducted only in the private health system.
3. Studies that did not quantitatively assess preinterventions and postinterventions or that did not describe the impacts and outcomes for survivors (adult women), workers or public health systems.
4. Studies that do not include a primary or secondary outcome related to interventions for IPV against adult women.
5. Grey literature, including any study protocols, theses, case reports, letters, opinions, editorials, weekly reports, policy documents, congress abstracts, theoretical papers, observational studies, qualitative studies or reviews.
6. Studies published in 2006 or earlier or with the full text not available in the eligible databases.

7. Duplicate studies that have used the same study population or data. In this case, it will be used only the most recent or relevant publication, for researches published in more than one journal.

### Data management of the studies

COVIDENCE ([www.covidence.org](http://www.covidence.org)) will be employed to manage retrieved studies and to conduct the systematic review process. The bibliographical software platform Endnote (online version [www.myendnoteweb.com](http://www.myendnoteweb.com)) will also be used to manage and store relevant studies for this review. These software will remove duplicates thereby cleaning the sample. A checklist will be developed based on the eligibility criteria of this review. The flow diagram showing the main steps of this systematic review is available on online supplementary appendix 3, following the PRISMA statement.<sup>30 31</sup>

### Data selection of the studies

The first step consists of the screening of potential studies. This will be done independently and blinded by two investigators fluent in the three languages included in this review (authors 1 and 3). They will analyse titles and abstracts of all non-duplicate papers from the electronic search, assessing their eligibility. This process of double-blinded screening was previously described<sup>44</sup> for rigorous systematic reviews. Some papers may not describe precisely their abstracts, so a careful search is proposed to maximise the inclusion of studies. Following Ayala Quintanilla *et al*,<sup>44</sup> if there is uncertainty about the inclusion of a certain study in this step, that study will be temporarily included and will proceed to the next step for more evaluation. Considering all the selected databases provide an English version of their titles and abstracts, a librarian (author 2) will cross-check this first step, comparing the independent results obtained from each investigator and ensuring that all steps were conducted in compliance with the protocol. If there is any uncertainty between the resultant studies, the librarian will seek for an opinion from one of the advisors (authors 5 and 6) that compose this review team.

The second step consists of examining the full version of all selected studies from the first step, concerning the selection criteria. Two investigators will analyse independently all the articles for each language. The librarian will double-check this process.

The final list of selected studies will be reviewed independently. For each exclusion, justification will be documented. The results will be compared by the librarian, and any disagreements will be discussed and if necessary, consultation with a third author will occur to reach the consensus.

### Appraisal/assessment of the risk of bias of the included studies

It is expected that eligible studies will vary according to their methodological approach. There is a vast range of tools to assess the quality and bias of studies. Nevertheless, evaluating such biases and qualities is a challenging task and there is no consensus to conduct it.

Grading of Recommendations, Assessment, Development and Evaluation (GRADE)<sup>45</sup> and the Enhancing the Quality and Transparency of health Research Network (EQUATOR)<sup>46</sup> provide support with guidelines and tools to evaluate the studies, rating up according to the level of evidence.

In this review, to minimise the risk of bias and evaluate the quality of evidence of each article included, we will adopt: (1) the Cochrane Collaboration's tool for assessing risk of bias for RCTs<sup>47</sup>; (2) the Methodological Index for Non-Randomised Studies (MINORS)<sup>48</sup> to assess non-randomised interventional studies. This process will be independently performed by different authors (two authors for articles written in English, two for studies written in Portuguese and two for articles in Spanish) and any disagreement will be discussed and resolved by a third author, if needed.

### Data extraction

For this third step, three investigators (authors 1, 3 and 4) will independently and blindly extract all data items (see online supplementary appendix 4) of each included study with a standardised data collection form. The first author will extract data from studies in English and Portuguese. The third author will extract data from studies in Portuguese and Spanish, while the fourth author will collect from Spanish and English. All extracted data will be converted into English by authors for articles in Spanish or Portuguese, to allow the analysis by all authors in a common language for all. To guarantee that no errors will be made, the librarian (author 2) will randomly cross-check these data. Any disagreements will be resolved by consensus between the two authors collecting each language and a third author (author 5 or 6) can be arbitrator if consensus is not reached, following other systematic review protocols.<sup>44</sup>

### Data items

The descriptive items that will be collected are (see online supplementary appendix 4): (1) general information and characteristics of the study, including the country/place, type of service where it was conducted, target participants and their main sociodemographic characteristics; (2) methodological characteristics, including the type of method and how data/information were collected, components that were analysed/; (3) impacts and outcomes for survivors, including IPV rates, women's health, safety and well-being and also impacts for their children; (4) impacts and outcomes for PHC workers, including types of workers, their roles and concerning measures and (5) impacts and outcomes for the public health systems, including measures of articulation with other levels of care (eg, hospitals, emergency units, intensive care units, etc) and other sectors beyond the public health (eg, housing, financing, police, justice, social services, etc), and also evaluation of costs and sustainability of the intervention. For items 3, 4 and 5, we will also collect information about barriers and facilitators

for each of the three components (survivors, workers and systems), if available.

### Data synthesis and analysis

Data extracted will be analysed and summarised aiming to answer the research questions. Data will be summarised according to the outcomes: (1) for survivors, including their health, safety and well-being as well as impacts on IPV rates; (2) for PHC workers' practices considering their role to improve survivors' healthcare and (3) for public health systems, including evaluation of costs and sustainability.

When appropriate, a meta-analysis can be conducted, if a sufficient number of trials are identified with sufficient homogeneity. The meta-analysis will be conducted with aggregate data, rather than at the individual participant level. Continuous and categorical variables will be summarised according to the presentation of data of each study. Dichotomous outcome data (yes/no experience of IPV) will be described as risk ratios with their 95% CIs. It will also be indicated if those findings were adjusted for confounders. It is anticipated that there will be some variability of reporting impacts and outcomes of interventions across studies. In this case, a narrative description of the available evidence will be conducted instead. This will consider which results are significant and their association with the outcomes, based on data availability across studies.

This review will present the results reported in the original studies, however, authors may be contacted for relevant primary source of data. As indicated previously, we will calculate data, where possible, using the original information from the study such as for IPV or women's health, safety and well-being. In addition, quantitative data from figures can be used if there is sufficient information reported/explained in the study.

Additional data analysis can be made in order to assess the comparisons between studies, if possible. Qualitative synthesis of relevant process evaluations of included studies will be reported descriptively, restricting to qualitative components from eligible quantitative studies.

For duplicate studies that have used the same study population or data, the most recent or relevant publication will be used for studies published in more than one journal, if possible the data will be linked together.

In summary, data analysis will be performed according to the data availability of eligible studies, and statistical expertise will be consulted as needed. The software STATA V.15 will be used for all the quantitative analyses. We will relatively give more weight in the synthesis to results from studies with stronger design.

### Cochrane's recommendations for reviews in public health

This review will follow some of the Cochrane guidelines for reviews conducted in public health and health promotion scenarios. One of the key points is sustainability, referred by The Cochrane Collaboration Group<sup>33</sup> as an important aspect to be included in systematic reviews

in public health contexts, because it is likely to increase the concern of policy-makers, practitioners and funders. When sustainability was measured in eligible studies, we will look for additional explanations about which outcomes were measured over what period. However, if it was not measured, but authors explore the potential for sustainability, it will also be summarised.

Another Cochrane<sup>33</sup> recommendation for systematic reviews in public health is the consideration of applicability and transferability. Applicability refers to how the findings of a given study or review can be translated into specific population or settings. Transferability is also referred as the potential for this translation occurs. If the reviewed studies mention these aspects, they will also be included in the analysis.

### Economic evidence

Cochrane<sup>33</sup> recommends the review of the economic evidence, because it provides additional information for decision-makers, considering if a strategy or intervention works, and whether its adoption will improve the use of resources. The economic issues are not the main objective of this review, therefore, it will not be an inclusion or exclusion criteria, but will compose an additional source of information when mentioned in the studies. We believe this information will be particularly important for LMIC and summary will be presented when described in eligible studies.

### PRESENTING AND REPORTING THE RESULTS

The process of selection of eligible studies for the systematic review will follow the flow diagram according to guidelines of the PRISMA-P (online supplementary appendix 1). The main steps of the review will include: the identification of studies, screening, evaluation according to inclusion/exclusion criteria and analysis of eligible studies. Results will be presented according to the outcomes: for survivors, for PHC workers and for public health systems. Data will be summarised in tables depending on data from each study, but presenting first author's name, country, year of publication, study design, aims and main outcomes.

### POTENTIAL AMENDMENTS

This protocol is designed to guide with rigour all the steps of this systematic review. Amendments are not expected, but if necessary, just in case of any unexpected event, they will be reported in a detailed and consistent way, followed by appropriate justification. The same will be applied to any differences between the protocol and the review. In case of differences, they will be fully described in a specific section of the final review, providing rationale for them.

### CONCLUSION AND IMPLICATIONS

IPV is one of the main public health problems for women's health, safety and well-being. It requires

effective and sustainable actions to reduce harm and life threatening, targeting comprehensive interventions, particularly in PHC settings in low-income and middle-income contexts. This challenge is more severe in LMIC and exchanging effective interventions can be a coordinated way to foster debate and action. This review will systematise the knowledge previously produced, identifying research gaps and opportunities on interventions conducted in LMIC.

IPV is a potentially preventable issue, but its complexity requires the articulation of different sectors (including health systems, education, justice, among others), in different levels (highlighting the key potential role of the primary care level, but connecting to other levels), with collaboration of different actors (such as health professionals, managers, police, etc) and with different targets (survivors, perpetrators, families, communities, etc).

Facing this complex scenario, it is significant to recognise the limitations of this review, such as the types of studies included, that do not include all possible methodological approaches conducted in LMIC. Another limitation is the possible diversity of interventions, that can be challenging to be compared and systematised. It could be possible that other relevant studies will be excluded, since this review includes only studies published in English, Portuguese and Spanish. Another potential limitation may be that funding for rigorous studies of IPV interventions has only been fostered in the past few years, potentially limiting the ability to identify relevant studies in the review time period. In a systematic review, this limitation may also become a study finding, since a dearth of evidence is, in itself, useful to inform the field.

It is important to mention that the findings of this systematic review will be cautiously interpreted and the conclusions will be presented with parsimony, considering such limitations. This review will only focus in a 'tip of the iceberg', but it can raise questions for future studies with focus, for example, in other levels of care or in other sectors rather than the public health or even including other methodological approaches, such as qualitative studies, which have been extensively reported in LMIC.

## ETHICS AND DISSEMINATION

### Ethical issues

This systematic review is based on studies previously published and does not include collection of new primary data. Consequently, the host university has stated that is not necessary to obtain ethical clearance.

### Publication plan

This review will be publicised in conferences (preliminary results) and the final article will be published in a peer-reviewed journal. We intend to publish both the protocol and the systematic review in open access journals, aiming to be accessible to investigators currently

engaged in interventions in LMIC. This review affords a voice to researchers in the field of IPV who would otherwise go unheard, and provide greater insights into the range of possible interventions for nations facing comparable issues. It is expected that the final publication can support public systems and policies worldwide.

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**Contributors** MCS conceived the review. SH, BPAQ, DCdO and AT assisted on the design of the study protocol. MCS and SH drafted the protocol paper and all authors edited the subsequent versions. AT and KH critically revised the methodology. All authors reviewed and approved the final version of the text. MCS is the guarantor of the review.

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## REFERENCES

1. WHO. *Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence*. Geneva: World Health Organization Department of Reproductive Health and Research, London School of Hygiene and Tropical Medicine, South African Medical Research Council, 2013.
2. Krug EG, Mercy JA, Dahlberg LL, *et al*. The world report on violence and health. *Lancet* 2002;360:1083–8.
3. Garcia-Moreno C, Jansen HA, Ellsberg M, *et al*. Prevalence of intimate partner violence: findings from the WHO multi-country study on women's health and domestic violence. *Lancet* 2006;368:1260–9.
4. Campbell JC. Health consequences of intimate partner violence. *Lancet* 2002;359:1331–6.
5. Coker AL, Davis KE, Arias I, *et al*. Physical and mental health effects of intimate partner violence for men and women. *Am J Prev Med* 2002;23:260–8.
6. Dutton MA, Green BL, Kaltman SI, *et al*. Intimate partner violence, PTSD, and adverse health outcomes. *J Interpers Violence* 2006;21:955–68.
7. Sarkar NN. The impact of intimate partner violence on women's reproductive health and pregnancy outcome. *J Obstet Gynaecol* 2008;28:266–71.
8. World Bank. *World bank country and lending groups*. Washington: World Bank, 2017.
9. UN. *Transforming our world: the 2030 agenda for sustainable development*. New York: United Nations, 2015:31.
10. WHO. *Global plan of action to strengthen the role of the health system within a national multisectoral response to address*

- interpersonal violence, in particular against women and girls, and against children*. Geneva: WHO, 2016:76.
11. Signorelli MC, Taft A, Pereira PP. Intimate partner violence against women and healthcare in Australia: charting the scene. *Cien Saude Colet* 2012;17:1037–48.
  12. Carvalho G. A saúde pública no Brasil. *Estudos Avançados* 2013;27:20.
  13. Aboal-Viñas JL. Salud pública y sistema sanitario. *Gaceta Sanitaria* 2010;4(Supplement 1):7.
  14. Naidoo S. The South African national health insurance: a revolution in health-care delivery!. *J Public Health* 2012;34:149–50.
  15. García-Moreno C, Hegarty K, d'Oliveira AF, et al. The health-systems response to violence against women. *Lancet* 2015;385:1567–79.
  16. Keleher H. Why primary health care offers a more comprehensive approach to tackling health inequities than primary care. *Aust J Prim Health* 2001;7:57.
  17. International Conference on Primary Health Care. Declaration of Alma-Ata. *WHO Chron* 1978;32:428–30.
  18. (APHCRI) APHCRI. *What is primary health care?* Canberra: Australian Primary Health Care Research Institute (APHCRI), 2009.
  19. Abramsky T, Devries K, Kiss L, et al. Findings from the SASA! Study: a cluster randomized controlled trial to assess the impact of a community mobilization intervention to prevent violence against women and reduce HIV risk in Kampala, Uganda. *BMC Med* 2014;12:122.
  20. Colombini M, Mayhew S, Watts C. Health-sector responses to intimate partner violence in low- and middle-income settings: a review of current models, challenges and opportunities. *Bull World Health Organ* 2008;86:635–42.
  21. Bacchus LJ, Colombini M, Contreras Urbina M, et al. Exploring opportunities for coordinated responses to intimate partner violence and child maltreatment in low and middle income countries: a scoping review. *Psychol Health Med* 2017;22(sup1):135–65.
  22. Bair-Merritt MH, Lewis-O'Connor A, Goel S, et al. Primary care-based interventions for intimate partner violence: a systematic review. *Am J Prev Med* 2014;46:188–94.
  23. Bourey C, Williams W, Bernstein EE, et al. Systematic review of structural interventions for intimate partner violence in low- and middle-income countries: organizing evidence for prevention. *BMC Public Health* 2015;15:1165.
  24. Hegarty K, Tarzia L, Hooker L, et al. Interventions to support recovery after domestic and sexual violence in primary care. *Int Rev Psychiatry* 2016;28:519–32.
  25. Taft AJ, Hooker L, Humphreys C, et al. Maternal and child health nurse screening and care for mothers experiencing domestic violence (MOVE): a cluster randomised trial. *BMC Med* 2015;13:150.
  26. Signorelli MC, Auad D, Pereira PP. Domestic violence against women and professional intervention in primary healthcare: an ethnographic study in Matinhos, Paraná State, Brazil. *Cad Saude Publica* 2013;29:1230–40.
  27. Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. *Milbank Q* 2005;83:457–502.
  28. Kruk ME, Porignon D, Rockers PC, et al. The contribution of primary care to health and health systems in low- and middle-income countries: a critical review of major primary care initiatives. *Soc Sci Med* 2010;70:904–11.
  29. Chan M. *Ten years in public health, 2007–2017*. Geneva: World Health Organization, 2017:152.
  30. Moher D, Shamseer L, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Syst Rev* 2015;4:1.
  31. Shamseer L, Moher D, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. *BMJ* 2015;349:g7647.
  32. Moher D, Liberati A, Tetzlaff J, et al. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *J Clin Epidemiol* 2009;62:1006–12.
  33. Higgins JPT, Green S. eds. *Cochrane handbook for systematic reviews of interventions*. West Sussex: The Cochrane Collaboration and John Wiley & Sons, 2008.
  34. Blankenship KM, Friedman SR, Dworkin S, et al. Structural interventions: concepts, challenges and opportunities for research. *J Urban Health* 2006;83:59–72.
  35. World Health Organization. *WHO guidelines on hand hygiene in health care: first global patient safety challenge clean care is safer care. Appendix 1 definitions of health-care settings and other related terms*. Geneva: World Health Organization, 2009.
  36. Hegarty K, Sheehan M, Bush R, et al. The composite abuse scale: further development and assessment of reliability and validity of a multidimensional partner abuse measure in clinical settings. *Violence Vict* 2005;20:529–47.
  37. Campbell DW, Campbell J, King C, et al. The reliability and factor structure of the index of spouse abuse with african-american women. *Violence Vict* 1994;9:259–74.
  38. Goldberg DP, Hillier VF. A scaled version of the general health questionnaire. *Psychol Med* 1979;9:139–45.
  39. Eaton WW, Smith C, Ybarra M, et al. Center for epidemiologic studies depression scale: review and revision (CESD and CESD-R). Maruish ME, ed. *The use of psychological testing for treatment planning and outcomes Assessment*. 3. Mahwah, NJ: Lawrence Erlbaum Associates, Inc, 2004 363 377.
  40. Lang AJ, Stein MB. An abbreviated PTSD checklist for use as a screening instrument in primary care. *Behav Res Ther* 2005;43:585–94.
  41. Ware JE, Sherbourne CD. The MOS 36-item short-form health survey (SF-36). I. Conceptual framework and item selection. *Med Care* 1992;30:473–83.
  42. Campbell JC. Nursing assessment for risk of homicide with battered women. *ANS Adv Nurs Sci* 1986;8:36–51.
  43. Landgraf J, Abetz L, Ware J. *The Child Health Questionnaire (CHQ) user's manual*. 1st edn. Boston: TheHealth Institute, New England Medical Centre, 1996.
  44. Ayala Quintanilla BP, Taft A, McDonald S, et al. Social determinants and maternal exposure to intimate partner violence of obstetric patients with severe maternal morbidity in the intensive care unit: a systematic review protocol. *BMJ Open* 2016;6:e013270.
  45. Schünemann HJ, Schünemann AH, Oxman AD, et al. Grading quality of evidence and strength of recommendations for diagnostic tests and strategies. *BMJ* 2008;336:1106–10.
  46. Pandis N, Fedorowicz Z. The international EQUATOR network: enhancing the quality and transparency of health care research. *J Appl Oral Sci* 2011;19.
  47. Higgins JP, Altman DG, Gøtzsche PC, et al. The cochrane collaboration's tool for assessing risk of bias in randomised trials. *BMJ* 2011;343:d5928.
  48. Slim K, Nini E, Forestier D, et al. Methodological index for non-randomized studies (minors): development and validation of a new instrument. *ANZ J Surg* 2003;73:712–6.