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Extending the PRISMA statement to equity-focused systematic reviews (PRISMA-E 2012): explanation and elaboration

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Abstract

Background: The promotion of health equity, the absence of avoidable and unfair differences in health outcomes, is a global imperative. Systematic reviews are an important source of evidence for health decision makers but have been found to lack assessments of the intervention effects on health equity. The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) is a 27-item checklist intended to improve transparency and reporting of systematic reviews. We developed an equity extension for PRISMA (PRISMA-E 2012) to help systematic reviewers identify, extract, and synthesize evidence on equity in systematic reviews.

Methods and Findings: In this explanation and elaboration article, we provide the rationale for each extension item. These items are additions or modifications to the existing PRISMA statement items, to incorporate a focus on equity. An example of good reporting is provided for each item as well as the original PRISMA item.

Conclusions: This explanation and elaboration document is intended to accompany the PRISMA-E 2012 statement and the PRISMA statement to improve understanding of the reporting guideline for users. The PRISMA-E 2012 reporting guideline is intended to improve transparency and completeness of reporting of equity-focused systematic reviews. Improved reporting can lead to better judgment of applicability by policy makers which may result in more appropriate policies and programs and may contribute to reductions in health inequities.

Keywords: Systematic reviews; Health equity; Reporting guidelines; Research methodology

1. Introduction

Promoting health equity and reducing avoidable health inequalities is a global imperative, endorsed by the Rio Summit in Brazil in 2011, the Pan American Health Organization, and the World Health Organization [1−3]. Health inequalities are differences in health outcomes across individuals in a population or between different population groups, whereas health inequities are inequalities which are avoidable and unfair [4,5]. Inequities are not only due to poverty, but may also be due to unfair differences in health across other characteristics such as sex/gender, geography, and ethnicity [6]. The concept of health equity also suggests that groups

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† In memoriam: We are greatly saddened by the loss of our esteemed friend and colleague, Elizabeth Waters, whose contributions were invaluable to this work.

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of people should not be prevented from achieving health due to factors such as discrimination or inadequate access. In this reporting guideline, we focus on unfair inequalities in health outcomes and therefore use the term ''equity.''

Systematic reviews are recognized as an important source of rigorously and transparently synthesized information by health decision makers [2,7–9]. Health decision makers have described lack of evidence on equity as a barrier to using systematic reviews and guidelines [5,10], and arguably, primary studies themselves. However, a 2010 systematic review found that there is a lack of detail in reporting of certain aspects important to health equity including population characteristics, assessment of credibility of subgroup analyses, and judgment about the applicability of the findings to other settings with fewer than half of the included reviews reporting on socio-demographic characteristics (such as age, sex, place of residence, ethnicity) of the study populations [11]. These are important factors to consider for health equity and the lack of reporting of these elements demonstrates the need to improve reporting of equity in systematic reviews, and to increase the overall investment in systematic reviews that can provide a clear emphasis on considerations of equity. See Box 1 for a description of the terminology related to disadvantaged populations that is used in this paper.

Reporting guidelines have been shown to improve reporting of different study designs [12,13]. The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) is a 27-item checklist to ensure complete and transparent reporting of the methods used in systematic reviews [14]. However, the original PRISMA statement did not include items specific for reporting on considerations of equity. Equity considerations include the definition of disadvantaged populations, methods to include equity considerations in analyses, and applicability of the evidence to other settings or populations. We developed an equity extension of the PRISMA statement called PRISMA-E 2012 to respond to these needs [15]. As of July 8, 2015, the PRISMA-E 2012 reporting guideline has been viewed almost 16,000 times, downloaded 2,661 times, cited 50 times (Scopus), and shared 109 times using Twitter (99 tweets by 70 users according to Altmetrics). It is also cited as a reference for the World Health Organization Handbook on Guideline Development, the Oxford Textbook of Public Health, the Public Health Agency of Canada guidance, the Canadian Institutes of Health Research instructions for applicants, and the Journal of the Society for Social Work and Research. The Spanish version of PRISMA-E 2012, published in July 2013, has been downloaded 477 times as of November 17, 2014 (SciELO) and has received 1,474 visits on the Journal's Web site [16].

To further facilitate and promote the use of the guideline of equity issues in systematic review (PRISMA-E 2012), we developed this explanation and elaboration to describe each of the items and provide examples from existing reviews to demonstrate good reporting.

2. Scope of PRISMA-E 2012

The PRISMA-E 2012 checklist was developed to improve transparency and completeness of reporting of systematic reviews of intervention studies with a focus on health equity. We define systematic reviews of intervention studies with a major focus on health equity as those designed to

(1) Assess effects of interventions targeted at disadvantaged or at-risk populations (e.g., school feeding for disadvantaged children [17]). These may not include equity outcomes but by targeting disadvantaged populations will reduce inequities.
(2) Assess effects of interventions aimed at reducing social gradients across populations or among subgroups of the population (e.g., interventions to reduce the social gradient in smoking, obesity prevention in children, interventions delivered by lay health workers [15,18–20]).

In the PRISMA-E 2012 statement, we had a third type of systematic review focused on health equity, those that are not aimed at reducing inequities but where it may be important to understand the equity effects. For example, we had previously categorized the review examining lay health workers in this category. We have now grouped this review into the second type of review described previously.

In 2010, approximately 20% of systematic reviews indexed in MEDLINE met at least one of the aforementioned criteria [21,22]. These reviews may not include equity as an outcome, but may target disadvantaged populations, or assess differences of the effect of the intervention among disadvantaged populations.

The PRISMA-E 2012 items are focused on health equity but may also apply to systematic reviews in nonhealth areas which address questions about inequity such as education, transport, justice, or social welfare. Additionally, some items in the checklist may be relevant to all systematic reviews but have been included in this extension because of their specific importance to health equity. These items are additions or modifications to the existing PRISMA statement items, to incorporate a focus on equity. For each item, the original PRISMA item is listed and the PRISMA-E 2012 extension item is noted in the following.

3. Methods PRISMA-E 2012 reporting guideline

To develop the PRISMA-E 2012 reporting guideline, we followed the series of steps recommended by Moher et al. (2010), as reported in the previously published article [23]. The first step was to identify need and review the literature. We conducted a systematic review and a