

Evaluating the Effectiveness of Interventions to Reduce Gender Disparities in Healthcare: An Overview of Literature Reviews

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Introduction

Gender is a fundamental determinant of health, influencing how individuals access healthcare and how health systems respond to their needs. Beyond biological and genetic differences (sex), gender roles, norms, activities, and behaviours shaped by social and political constructs significantly affect health risks, health-seeking behaviours, and outcomes.¹ These complexities, combined with logistical barriers, perceptions of healthcare needs, and limited resources, present significant challenges to ensuring equal health and well-being for all people. They further impede access to care and limit individuals’ decision-making power over their health, often through systemic discrimination or lack of support mechanisms.^{2,3}

Gender disparities in diagnosis, management, and health outcomes are well documented. For instance, research highlights gender bias in the clinical management of chronic diseases and other health conditions, underscoring the extent of inequities in healthcare.⁴ The World Health Organization emphasizes that addressing gender norms and roles can help uncover how unequal power dynamics and social constructs contribute to disparities in healthcare access and outcomes.³

Achieving gender equity in health requires eliminating avoidable differences between genders, ensuring equal access to healthcare resources for equal need, and providing additional resources where inequities exist. Evaluating gender-based approaches within health systems in terms of their effectiveness, feasibility, and cost is essential for overcoming barriers to change and ensuring equitable healthcare outcomes for all.^{2,3}

Despite the growing body of research highlighting the relevance of gender inequalities in healthcare, there is a lack of focus on effective interventions that provide policymakers and health workers with practical tools to apply gender-oriented clinical approaches. This literature review aims to summarize existing evidence on interventions designed to reduce gender disparities in healthcare.

Methods

Comprehensive searches were conducted in MEDLINE and Embase databases in June 2025 to identify literature reviews of interventions addressing gender bias in healthcare or reducing gender disparities in health outcomes. Eligible reviews included systematic or scoping analyses, with or without meta-analysis, that assessed the effectiveness of interventions or policies aimed at mitigating these disparities. Gender was defined broadly, encompassing men, women, boys, girls, transgender individuals, and non-binary people. Reviews focusing on LGBTQ+ minorities were included only if they reported data for transgender individuals separately.

Results

After removing duplicates, 498 abstracts were retrieved through database searches. Following review of title/abstracts, 36 articles were further reviewed at the full-text level, and five were finally included in this review.⁵⁻⁹ These review articles were published between 2019 and 2025, focusing on two types of interventions: training for healthcare students, professionals, and providers; and policy interventions. Summaries of study characteristics and findings are presented in **Table 1**.

Training interventions reviewed in four studies⁶⁻⁹ were mostly focused on gender-sensitivity education (**Figure 1**), a key component of patient-centred care, that targets healthcare students and providers to acquire competence in understanding sex and gender differences and incorporating these into their practice.

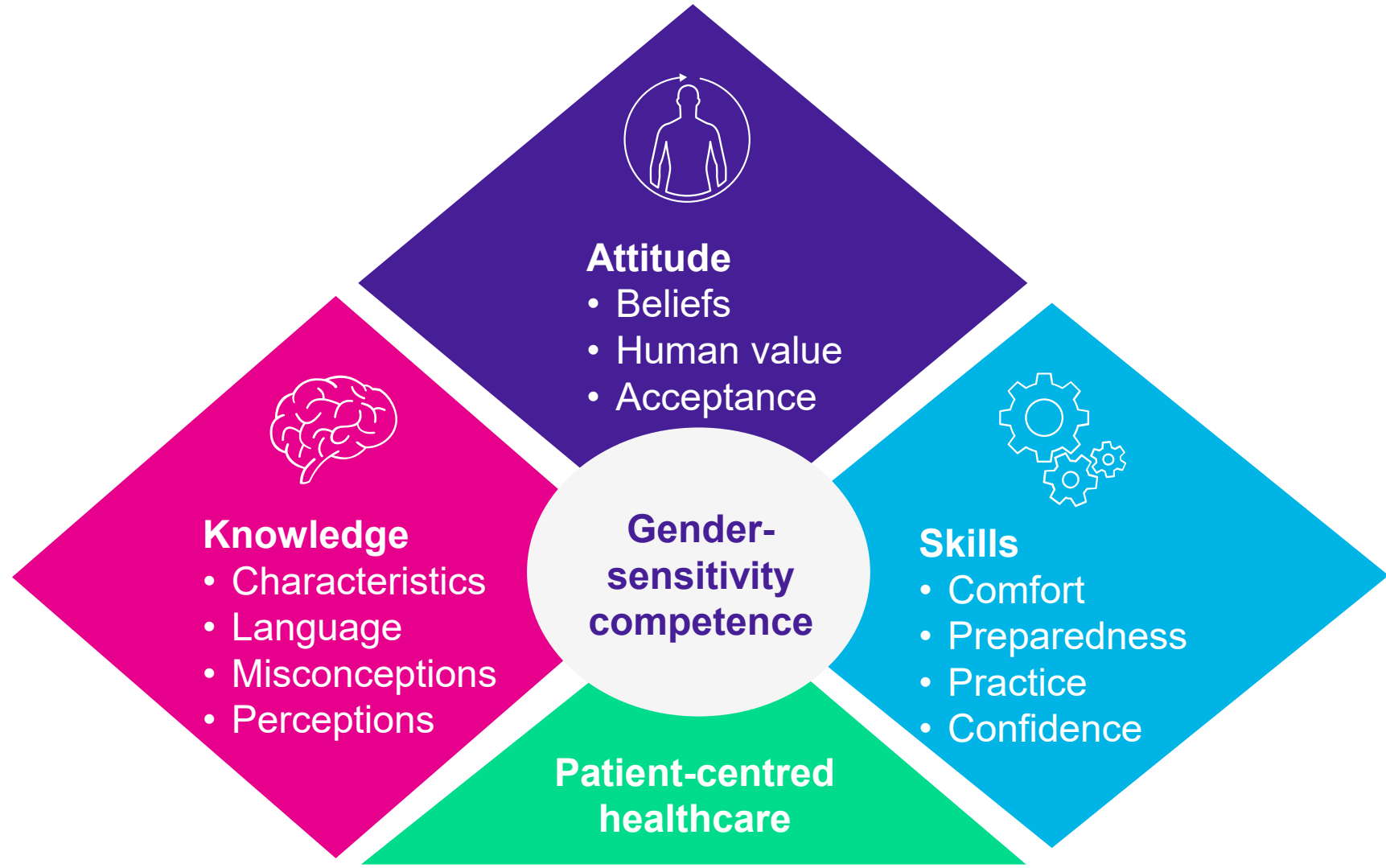
Overall, training interventions showed potential for improving short-term knowledge and attitude shifts related to gender-sensitive care; however, their long-term effects remain unclear due to methodological limitations and a lack of consistent follow-up.

- **Knowledge gains:** Training interventions for healthcare providers and students consistently demonstrated short-term increases in knowledge about gender-sensitive care. These programmes often included multimodal approaches such as lectures, simulations, and experiential learning.
- **Attitude shifts:** Positive changes in attitudes toward gender-sensitive care were observed, with participants reporting increased confidence and comfort in providing care to diverse gender groups. However, these improvements were not consistently sustained over the long term, as follow-up assessments showed a decline in knowledge and attitudes.

Results (cont.)

- **Limited clinical impact:** Few studies assessed whether changes in knowledge and attitudes translated into meaningful changes in clinical behaviour or tangible patient outcomes. The lack of control groups and pre-/post-intervention measurements limited the ability to evaluate the effectiveness of these interventions fully.
- **Policy interventions** were reviewed in one scoping study,⁵ which showed that policies aimed at reducing gender inequalities in health are scarce, with slow implementation and limited success.
- **Persistent disparities:** Despite some success, overall progress has been slow, and disparities persisted due to structural barriers.
- **Structural barriers:** Challenges such as underfunding, lack of gender-sensitive data, resistance to systemic changes, and limited participation of affected populations hindered the success of these initiatives

Figure 1. Gender-sensitivity training components for healthcare students and providers



Discussion and conclusions

In contrast to the extensive research identifying gender bias in healthcare, **only a limited number of studies have described and evaluated interventions aimed at addressing these biases.** However, the reviewed literature reveals that many interventions successfully achieved at least one of their intended outcomes, such as improving knowledge, attitudes, or practices related to gender-sensitive care. Despite this progress, it is concerning that interventions in primary healthcare settings—where addressing gender bias could make the greatest impact—remain largely absent from the available research.

The findings of this review highlight significant gaps in the design and evaluation of interventions targeting gender inequities in healthcare. None of the identified studies evaluated the impact of training or policy interventions on patient outcomes. There is some evidence to suggest that training interventions can help to change attitudes of healthcare professionals, but it is not clear if this translates into further action and behaviour change that can directly benefit patients.

Future interventions should be developed with a gender-sensitive perspective and should aim to be comprehensive, long term, and tailored to the specific context and population. Experimental designs with robust evaluation frameworks, including standardized indicators and methods, are essential to ensure the effectiveness of these interventions. Moreover, interventions should address facilitators and barriers specific to the inclusion of gender perspectives in healthcare, ensuring adaptability across diverse settings and populations.

Finally, successful implementation of gender-sensitive interventions is not sufficient; **ongoing monitoring and evaluation are crucial.** Structural embedding of gender equity in healthcare systems requires the development of standardized indicators, audits, and accountability mechanisms to track progress and ensure sustained impact. Addressing these gaps will help move beyond identifying gender biases and toward actionable solutions that improve health outcomes for all individuals.

Table 1. Characteristics of systematic/scoping reviews of interventions addressing gender disparity in healthcare

First author, year (Publication year search limit)	Targeted population	Study design of included studies	Geography	Duration of interventions	Interventions addressing gender disparity in healthcare	Effectiveness of interventions	Limitations
Training Interventions							
Damery, 2025 ⁶ (up to 2023)	Healthcare students and professionals	N=10 • 3 RCTs • 7 pre- and post-interventions with control nonrandomised	• USA (n=8) • Spain (n=1) • UK (n=1)	40 minutes-50.5 hours	Gender-specific training, policy analysis, and curriculum reforms	Limited effectiveness due to lack of longitudinal data and insufficient policy assessments	• Most studies were of poor quality • Heterogeneity of training content, methods of delivery, training intensity/duration, and outcome measures assessed precluded quantitative synthesis of outcomes across studies
Yu, 2023 ⁹ (up to 2021)	Nursing students and healthcare providers	N=26 Pre- and post-tests • 3 with control • 20 without control • 3 post-tests only without control	• USA (n=22) • Canada (n=2) • Australia (n=1) • Spain (n=1)	1-10 hours	Gender sensitivity training, lectures, and experiential learning	• Moderate effectiveness in improving knowledge, attitude, comfort level, confidence in practice, and cultural competence, which may reduce health inequities • Limited measurement of long-term outcomes	Absence of control groups, limited measurements of outcomes, and short follow-up periods
Lindsay, 2019 ⁷ (1998-2018)	Medical students and healthcare professionals	N=29 Pre- and post-surveys • 1 with control 15 without control • 6 post-only surveys • 3 mixed methods • 3 descriptive observational • 1 prospective cohort study	• USA (n=17) • Germany (n=4) • Netherlands (n=3) • Australia, Austria, Korea, Spain, and Sweden (n=1 each)	45 minutes-22.5 hours	Gender sensitivity training, lectures, and experiential learning	• Potential effectiveness to improve gender-related knowledge, attitudes, and practice in the short term • Limited impact on long-term clinical practice	• The content of the interventions, durations, frequencies, and modes of delivery varied considerably across the studies • Small sample sizes, lack of control groups, and uneven gender distribution
Morris, 2019 ⁸ (2005-2017)	Healthcare students and providers	N=13 12 pre- and post-tests	• North America (n=13)	45 minutes-4 weeks	Gender health training, workshops, and online modules	• Moderate effectiveness in improving knowledge, comfort, and attitudes to reduce explicit and implicit gender bias • Limited clinical impact	Poor study quality, high participant dropout rates, and lack of randomization
Policy Interventions							
Crespi-Llorens, 2021 ⁵ (up to 2019)	Health policymakers	• N=33 • 22 described the process of formulation, implementation, or evaluation of policies • 6 recommendations • 5 mixed descriptions and recommendations	• Europe • Latin America • North America • Oceania • Africa • Asia • Multiple countries	Not specified	Policy frameworks aimed at reducing gender disparities	Limited effectiveness due to systemic barriers such as underfunding and lack of accountability mechanisms	• Articles retrieved are highly heterogeneous, and this could hinder comparisons between studies • Studies showed failures in design and, particularly, in the implementation process

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