

BMJ Open Experimental studies testing interventions to promote cultural safety, interculturality or antiracism in healthcare: protocol for a systematic review

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ABSTRACT

Introduction Cultural safety, interculturality and antiracism are crucial concepts in addressing health disparities of minority and diverse groups. Measuring them is challenging, however, due to overlapping meanings and their highly contextual nature. Community engagement is essential for evaluating these concepts, yet the methods for social inclusion and protocols for participation remain unclear. This review identifies experimental studies that measure changes resulting from culturally safe, intercultural or antiracist healthcare. The review will describe outcomes and additional factors addressed in these studies.

Methods and analysis The study focuses on epidemiological experiments with counterfactual comparisons and explicit interventions involving culturally safe, intercultural or antiracist healthcare. The search strategy covers PubMed, CINAHL, Scopus, Web of Science, ProQuest, LILACS and WHO IRIS databases. We will use critical appraisal tools from the Joanna Briggs Institute to assess the quality of randomised and non-randomised experimental studies. Two researchers will screen references, select studies and extract data to summarise the main characteristics of the studies, their approach to the three concepts under study and the reported effect measures. We will use fuzzy cognitive mapping models based on the causal relationships reported in the literature. We will consider the strength of the relationships depicted in the maps as a function of the effect measure reported in the study. Measures of centrality will identify factors with higher contributions to the outcomes of interest. Illustrative intervention modelling will use what-if scenarios based on the maps.

Ethics and dissemination This review of published literature does not require ethical approval. We will publish the results in a peer-reviewed journal and present them at conferences. The maps emerging from the process will serve as evidence-based models to facilitate discussions with Indigenous communities to further the dialogue on the contributing factors and assessment of cultural safety, interculturality and antiracism.

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STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ The review combines overlapping literature on cultural safety, antiracism and interculturality.
- ⇒ We use fuzzy cognitive mapping to summarise the review findings and create intervention models that can be discussed with stakeholders.
- ⇒ The emphasis on experimental trials highlights interventions with proven efficacy but may miss useful interventions not tested with experimental designs.
- ⇒ The review is limited to published literature, so it may miss studies only reported in governmental and organisational reports.

INTRODUCTION

Growing interconnectedness increases the need for improved tools and lexicon to manage ethnic, cultural and identity differences effectively and to prevent conflicts between groups.¹ Minorities and diverse groups often face health disparities rooted in cultural, racial or historical social factors.^{2–5} Three related concepts address this issue: cultural safety emphasises the reduction of cultural assault⁶; interculturality promotes collaborative solutions using diverse knowledges⁷ and antiracism promotes racial equity.⁸ Defining and measuring the impacts of these approaches is challenging due to overlapping meanings and outcomes. Many systematic reviews have identified the need for interventions around these topics and offered action guidelines, but there is no consensus on tools for measuring impact.^{2 9–49}

Māori nurses in New Zealand first proposed the concept of cultural safety to emphasise that healthcare services provided to Indigenous groups should not perpetuate colonial attitudes, but rather respect traditional identities and cultures.⁶ Cultural safety is

sometimes incorrectly confused with cultural humility, cultural sensitivity, cultural awareness or other approaches for cross-cultural relationships without clear boundaries.^{31 50 51} Several Indigenous groups have expressed the need for medical services that are free from discrimination, allowing them to feel spiritually, socially, emotionally and physically secure.^{52–54} Culturally safe care is often expressed as respect, self-reflexivity of providers, trust in health providers or self-determination of Indigenous groups.³¹ Changes in these parameters are difficult to measure. Furthermore, cultural safety is highly context-specific and depends on patients' views, which makes it difficult to define at a general level.⁵⁵ An emerging consensus is that cultural safety is about the patient's experience and requires a respectful engagement that recognises and strives to address power imbalances inherent in the healthcare system, leading to an environment where people feel safe when receiving healthcare.⁵⁶

Related to cultural safety but with important differences, Indigenous groups in Latin America advocate for intercultural models that integrate their traditional knowledge and practices with the health services they receive.⁷ Interculturality has political and structural implications because it is a social proposal based on equity, diversity and pluralism with a stronger expression of indigenous self-determination and control over the governance of their territories and communities.⁵⁷ The concept of interculturality promotes dialogue between diverse people by acknowledging and respecting our shared human dignity, thus helping us to articulate our identities positively and constructively.¹ Interculturality in healthcare acknowledges the presence of intricate traditional knowledge systems that can interact with Western knowledge to identify preventative or therapeutic options and, ultimately, improve health.⁵⁸ The content of intercultural interventions, however, often varies in approach, which reflects differing interpretations of the concept.⁵⁹

Exclusion and disrespect can arise due to cultural differences. They may also arise because of individual expressions of personal bias, prejudice and the structural factors that perpetuate discrimination. Racism systematically reflects and reinforces behaviours, beliefs, racial prejudices, practices and policies based on race, ethnicity, culture or religion that operate to advantage those with historical power.⁶⁰ The negative effects of racism in healthcare are well documented,^{41 61} but there is much less literature on interventions to stop racism or to reverse its effects.⁶² With considerable geographical variability,⁶³ antiracism encompasses thinking patterns and actions aimed at combating racism and fostering equality among races and ethnic groups. Viewed in this light, antiracism is closely allied to cultural safety and interculturality.^{57 64–66}

Cultural safety, interculturality and antiracism can affect healthcare on individual, organisational, community and system levels, and we should be able to evaluate their impact on the experiences of service providers and patients. The very definition of cultural safety that people feel safer, implies communities should be involved

in assessing impact. Communities must also discuss the social space for change and what they can contribute to the process. Yet a history of oppression can sometimes result in oppressed communities justifying and normalising culturally unsafe services. Intersectionality adds a layer of complexity to measuring change, with individual and structural racism often linked with gender, socioeconomic or migratory status. People with diverse gender identities and sexual orientations have also advocated for culturally safe care in their context.^{67 68}

The rationale for this review

Familiarity with cultural safety is growing in New Zealand, Australia, Canada and the USA.²⁸ In Latin America and Europe, interculturality is a more common and related concept.^{59 69} Healthcare providers and governments have increasingly committed to integrating these principles into their services.^{70–72} Yet there is no consensus about how to build culturally safe medical practices.^{55 73 74} Several literature reviews and at least ten additional PROSPERO registrations address cultural safety. These reviews focus on describing culturally safe interventions for specific health issues,^{9–16} how to improve healthcare practices (medicine, nursing, midwifery),^{17–23} eHealth applications,²⁴ the presence of cultural safety in health research,²⁵ narrative descriptions of what cultural safety is^{26–32} and the experiences of beneficiaries.^{33 34} A limited literature on intercultural approaches to health emphasises communication issues.^{35–39} In contrast, multiple reviews summarise observational studies of the health consequences of racism.^{2 40 41} A fairly strong literature on antiracism goes back to the 1970s,⁴² initially on the education of active citizens in a multicultural and global society for their involvement in social justice.^{43–45} A recent survey characterised antiracist interventions for mental health equity across the USA state government administrative organisations.⁷⁵ In healthcare education, more recent reviews report an emphasis on skills to address cultural conflicts rather than antiracist approaches.⁴⁵ They report interventions for training nurses and social workers,^{46–48} but with some overlap in the operational definition of antiracism and culturally safe or sensitive approaches.⁴⁹ We have not found systematic reviews exclusively focused on experimental studies to measure changes from interventions inspired by either of these approaches.

A 2021 theoretical framework suggested measurement of cultural safety should consider five dimensions: structural factors in the form of social determinants of health, system interventions, patient experiences, health system performance and health and well-being outcomes.⁷⁶ We prefer a model that considers an interplay of multiple factors for measuring complex concepts. Unlike a single set of indicators, these models encompass pertinent influences of an outcome and how they interact. Fuzzy cognitive mapping (FCM) facilitates development of such models, inviting participation of stakeholders in their conceptualisation.^{77 78} FCM uses graphs to describe causal understanding as networks of concepts linked by

weighted arrows indicating influence levels. This technique has proved valuable in portraying Indigenous perspectives, without limiting these to researcher-held paradigms.^{79–81} Modern FCM analytical tools now allow modelling of changes associated with interventions.⁸² Because it provides a comparable language for multiple knowledges, it is now possible to summarise the results from a systematic review as a fuzzy cognitive map, to juxtapose the literature summary with stakeholder views.⁸³

This review identifies studies with experimental designs to measure consequences of culturally safe, intercultural or antiracist healthcare, to describe the outcomes and additional factors the studies addressed. A secondary aim is to use the identified studies to design soft models depicted as fuzzy cognitive maps. These maps will inform additional conversations with community members about the relevant factors to describe changes in cultural safety, interculturality or antiracism.

METHODS

This systematic review is registered in PROSPERO. We will document any amendment to the protocol and report it on PROSPERO, including the decision date, a description of the change and its rationale. We followed the Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) in preparing this manuscript.⁸⁴

Research question

What impacts do interventions have on cultural safety, interculturality or antiracism in healthcare of minority or culturally diverse groups, in studies with experimental designs?

Specific research questions include:

What are the definitions of cultural safety, interculturality and antiracism used in the included studies?

What indicators and instruments measure the impact on cultural safety, interculturality or antiracism in healthcare?

How do the identified impacts vary across populations and contexts?

How would the different impacts reported in the literature interact in a summary model based on FCM?

Eligibility criteria

Study characteristics

We will include epidemiological experiments, including clinical trials (interventions assigned to individual patients), field trials (interventions assigned to individual community members) and cluster trials (interventions assigned to communities or groups).⁸⁵ We will only consider studies with counterfactual comparisons (comparing intervention and control groups), whether randomised or not. Mixed-method studies will be eligible if they have a quantitative experimental component. We will exclude observational studies or those in which the intervention was not deliberately assigned to a group.

We will search and include studies reporting in English, Spanish, French or Portuguese without date restrictions. There will be no restrictions by setting.

Population

We will specifically seek to include studies that involve minority and culturally diverse groups, including Indigenous communities, people of diverse genders and sexualities, or racialised groups, among others. We will exclude studies that do not specify a particular population.

Interventions and comparators

We will include studies that state their intention to measure impacts as a consequence of interventions affecting cultural safety, interculturality or racism in healthcare. Control groups might receive another intervention or usual care. We will not apply any predefined definition of these concepts, and rather, we will document how they have been used. While cultural safety can have multiple interpretations, it is substantially different from cultural humility, sensitivity, awareness or competence.^{50 51} We will, therefore, exclude studies using these terms. For experimental studies on antiracism, the selection will also include those reporting interventions on implicit or explicit biases and discrimination due to racial or ethnic characteristics of patients. The review will exclude studies on multiculturalism because, in contrast with interculturality, it does not address problems related to discrimination and empowerment of minority groups.⁸⁶

Outcomes

The review will include studies in health research, including biomedicine, clinical practice, health services and education, population health, or the effects of environmental or sociocultural determinants, among others. Included studies will measure the progress or change in culturally safe, intercultural or antiracist healthcare at the individual, organisation, community or health system level. Included studies can report on practice changes, attitudes or behaviours among providers, including trainees. They can report on changes experienced by patients, community members or entire populations.

Search strategy

A librarian specialising in health research supported the development of the search strategy in June 2023. It includes PubMed, the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Scopus, Web of Science, ProQuest (journals and dissertations), the Latin American and Caribbean Health Sciences Literature (LILACS) and the WHO's Institutional Repository for Information Sharing (WHO IRIS). The review will not cover grey literature or Internet searches and will focus on academic databases. The search will also explore registered trials at ISRCTN registry (<https://www.isrctn.com/>), the International Traditional Medicine Clinical Trial Registry (<http://itmctr.ccebctm.org.cn/en-US>), the Cochrane Central Register of Controlled Trials (<https://www.cochranelibrary.com/central/about-central>)

and the International Clinical Trials Registry Platform (<https://www.who.int/clinical-trials-registry-platform>). We will contact the guarantors of potentially eligible registered studies to confirm the status of the study. The draft for the detailed search strategy is available in online supplemental appendix 1. It includes Medical Subject Headings terms and keywords for cultural safety, interculturality and antiracism. We decided not to define a specific population in the search strategy. The descriptors for trials used a standardised search developed by Canada's Drug and Health Technology Agency.⁸⁷

Data management

The list of references from each database will go to Covidence for the initial identification of duplicates.⁸⁸ Each member of the review team will have access to the review, but only AR-C and IS will have full access to all records and functions. We will keep a copy of the original lists of references from each database and the list after duplicate removal. Full-text selection and data extraction will rely on Covidence.⁸⁸

Selection process

Two reviewers will independently screen the titles and abstracts yielded by the search against the inclusion criteria. Prior to the formal screening process, a pilot will calibrate and refine the screening questions. The two reviewers will compare their responses on a sample of 30 references and repeat the procedure until they have a 90% coincidence. The reviewers will use the tested screening questions to identify references based on the title and abstract. If, at this initial stage, the reviewers are not sure they should include a reference but consider it is potentially relevant, they will include it for full-text review. At least two reviewers will read full texts and resolve disagreements through discussion. They will document the first reasons for exclusions. We will contact authors for additional data if needed.

Quality appraisal

We will use critical appraisal tools for randomised and non-randomised experimental studies from the Joanna Briggs Institute.^{89 90} The tools evaluate how well a study has addressed the potential for bias in its design, conduct and analysis. Two researchers will complete the 10-item questionnaire for each study and compare the results using Covidence. We will not exclude studies based on the quality assessment but will use these assessment results to interpret findings.

Data extraction

Two independent reviewers will extract from full texts the information on the study design and the associations reported in the trials directly into Covidence and resolve discrepancies by discussion. We will pilot the extraction forms with five studies. The team will discuss the data extraction procedure and draft a short instruction to clarify the process. The extraction forms will include at least the following items:

- ▶ Information about the study and its methods: title, year of the study, year of publication, type of randomisation, country/setting and design.
- ▶ Sample size and participant characteristics.
- ▶ Characteristics of the intervention: objectives, activities, duration, costs and who was involved in its implementation. For each intervention, we will identify three possible levels at which its activities were implemented: individual or interpersonal, community or organisation and system or structural.
- ▶ Main and secondary outcomes: indicators and instruments used to measure them.
- ▶ Associations or effect sizes reported in the study, for example, of the intervention with the main or secondary outcomes and other covariates. This will include the measure reported, its CIs and the size of each compared group at the end of the study, irrespective of midpoint measures.
- ▶ Definition of cultural safety, antiracism or intercultural health used in the study.

Collating, summarising and reporting

The reporting will follow the PRISMA checklist for systematic reviews.⁹¹ We will produce tables and charts of the characteristics of the studies. A narrative summary will describe the different approaches to cultural safety, intercultural care and antiracism across all the included studies. Fuzzy cognitive maps will synthesise all the relationships among contributing factors (identified in point e of the data extraction form), following the procedures of the weight of evidence.⁸³ This consists in listing all the relationships across included studies and calculating their relative strength based on the reported effect measures. The list of relationships is a tabular way to represent fuzzy cognitive maps, as explained below. We will create three maps, one for cultural safety, another for interculturality and another for antiracism and evaluate if they could be merged into one map. The weight of evidence also contemplates discussing and contrasting the maps with stakeholders, as described in the Patient and public involvement section. The analysis of the maps will use graph theory to describe the role of each factor and simulation techniques to define if-then scenarios for future discussion with stakeholders.^{92 93}

We will tabulate the identified characteristics of the interventions for the three main outcomes to classify and compare them (item c of the data extraction form). We expect complex strategies with multiple activities. If the study assesses the individual effect of each activity, we will report it. The report will disaggregate the activities of interventions into three levels or combinations of them: individual, when the actions are focused on patients or a specific person; community or organisation, when the intervention is focused on groups sharing a particular identity or linked with an institution; and system or structural level if the intervention aims to change how healthcare is provided in a territory or aims to change social domains which might impact health issues. The

discussion of the results will explore potential implications for replicability.

Fuzzy cognitive mapping

A fuzzy cognitive map is a diagram of how different factors in a system are connected and influence each other.⁹⁴ It summarises what a source, in this case the literature, identifies as causes of a particular outcome.⁷⁸ Members of the research team have used FCM for literature synthesis in addition to extensive experience summarising stakeholder experience and beliefs of causality.^{59 80 81 83 95} Each map presents factors as nodes linked by arrows to indicate the causal relationships. The arrows are weighed to indicate levels of causal strength between 1 for the strongest

and values closer to 0, equivalent to no relationship at all, for the weakest. The weights are positive if the increment of a cause leads to the increment of a consequence or negative if the increase in the cause leads to a decrease of the consequence. For illustrative purposes, figure 1 presents an example of a map from a scoping review on traditional midwifery in the Americas.⁵⁹

For each study included in the review, we will create a list of relationships reported (data extraction point e) in an edge list with five columns, where the first column is the origin factor, the second column is its consequence, the third column is the association or effect measure, and the fourth and fifth columns are the lower and upper

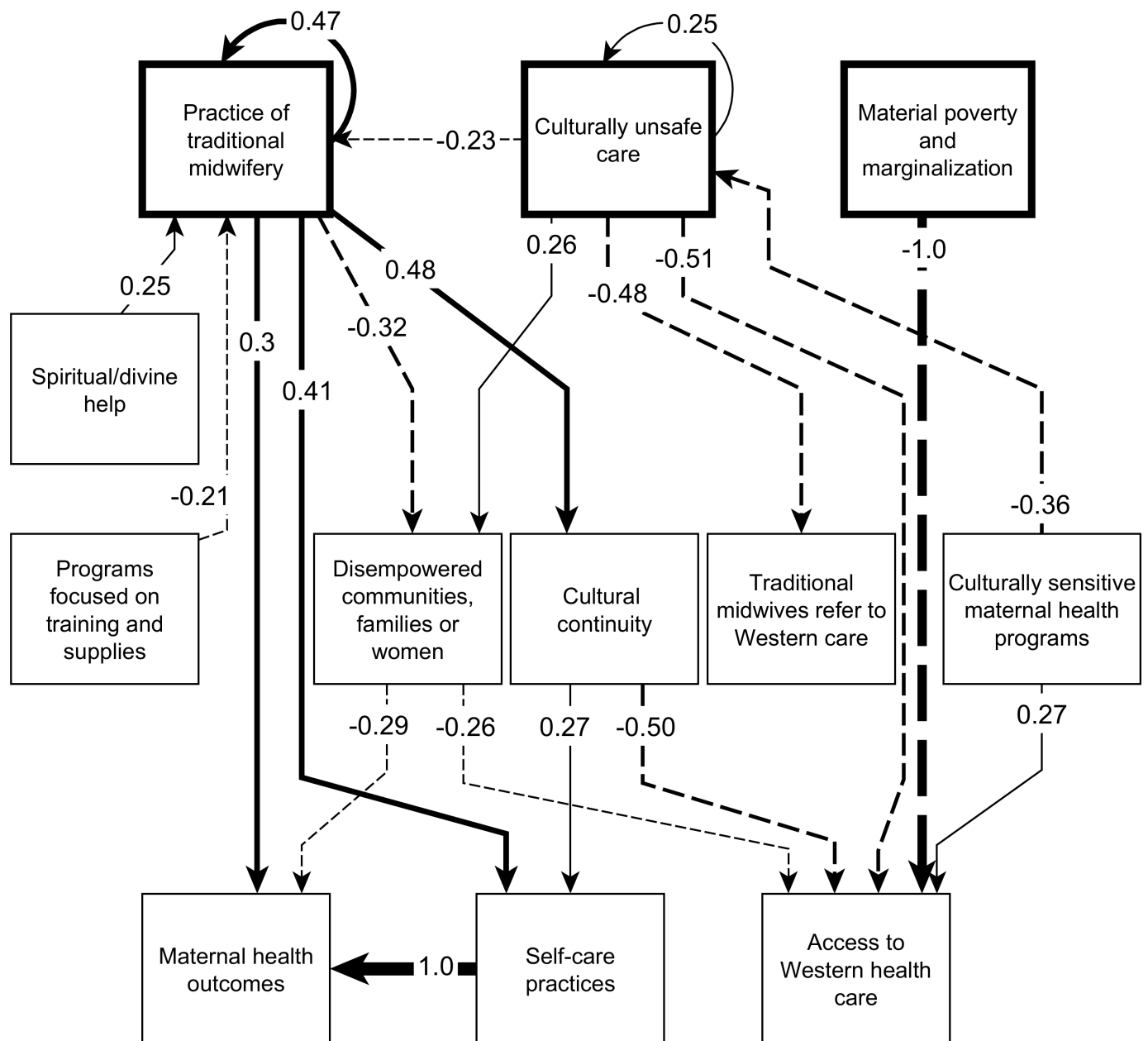


Figure 1 Solid lines represent positive relationships and dashed lines show negative ones. The numbers on the edges represent the weight of the influence of the cause node on its consequence, where 1 and -1 are the strongest influences on the map.

limits of the CIs. We will apply the procedure described by Dion *et al* for the weight of evidence to calculate common effect estimates to summarise quantitative data on the influence between factors.⁸³ If odds ratios (ORs) are available, Šajna's formula can be used to convert the values into a weight measure (w) within the range of -1 to 1 .⁸²

$$w = 1 - \left(\frac{2}{OR+1} \right)$$

In cases where the studies provide statistics other than ORs, such as χ^2 or mean differences, we will convert them to a standardised mean difference (d) and then use the following formula to convert d to an OR, where π is the mathematical constant (approximately 3.1416).⁹⁶

$$OR = \exp\left(\frac{\pi d}{\sqrt{3}}\right)$$

On each updated edge list with weights between 0 and 1, we will calculate fuzzy transitive closure.⁹⁷ This algorithm, available on CIETmap 2.2,⁹⁸ calculates the influence each factor has on all other factors through direct or indirect connections. We will combine maps derived from the literature into a summary map using (1) the average weights and (2) weighted averages proportional to study quality.⁹⁹ We will repeat the procedure using only the lower limits of the CIs and again using the upper limits as the weights of the map. This will inform us of the variability when uncertainty and extreme values are incorporated into the model.

On the summary maps, outdegree centrality,⁹² the summation of the absolute values of all outgoing arrows for each factor, will indicate the most influential factors. Higher values indicate factors that have more and stronger connections with others. Indegree centrality will identify the factors that are important outcomes because they receive more influence from within the system. To establish this for each node, we add the absolute values of its incoming arrows.

An additional analysis will use the summary map as a knowledge network to illustrate how change of a particular node could affect others.¹⁰⁰ This model calculates how the occurrence of a node, also called its activation level, changes as a function of its incoming influences. The activation level of a node is indicated by a number between 0 for no occurrence at all and 1 for complete presence. The function to calculate the expected occurrence of a node is the summation of the weights of the incoming arrows multiplied by the activation level of their origin causes. The activation level is then recalculated using the results from the previous step, and the process is reiterated until the activation levels remain stable. To identify if-then scenarios, model users can indicate activation values for specific nodes that will remain the same during the reiteration of the model. This will show expected activation levels on other nodes, particularly on those considered outcomes of interest.

DISCUSSION

Patient and public involvement

This protocol describes the initial step of a larger project that will contextualise the literature with participant experience. The results are a starting point for future discussion with Indigenous communities in Canada and Colombia, contextualising the international literature on cultural safety, and intercultural healthcare, and anti-racism in community experience. In Canada, we will extensively consult Inuit communities and healthcare providers in Nunavik to understand their views on the issue. Similarly, we plan to involve leaders of Indigenous and Afro-descendant groups in Colombia, to discuss the same topic. Each group will create its fuzzy cognitive map, which we will juxtapose to the literature FCM using the analytical approaches described above.

Strength and limitations

The systematic review and its analysis are limited to published experimental research. The maps from the literature are empirical models, their complexity will depend on the variables studied in the published literature. Some variables recognised in the non-experimental literature will not be present in the experimental literature. Future discussions will help to identify content gaps as we contextualise the literature in the experience of Indigenous partners.

We see this review as a step in a reproducible process with a flexible but robust tool (FCM) to involve communities in defining how to measure cultural safety, antiracism and intercultural healthcare in their contexts. Perspectives from Indigenous communities in North and South America could enrich the global knowledge on cultural safety, interculturality and antiracism.

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