

Enhancement of scoping review methodology to reflect Aboriginal and Torres Strait Islander ways of knowing, being and doing

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Abstract

Objective: This paper argues for the enhancement of scoping review methods to incorporate Indigenous ways of knowing, being, and doing for more effective understandings of evidence of importance to Indigenous populations.

Methods: Scoping review methodology typically aims to understand existing evidence and support translation of evidence into practice. Levac and colleagues (2010) scoping review methodology stages: 1) Identify the research question; 2) Identify relevant studies; 3) Study selection; 4) Charting the data; 5) Collating, summarising, and reporting results; and 6) Consultation were considered from the perspective of Indigenous knowledges and adapted accordingly.

Results: An enhanced method better aligns with Indigenous methodologies which are based on relationality, collaboration, partnership, reciprocity, and benefit. Consultation was redefined in this enhancement as *partnership* and integrated throughout scoping review stages, which are underpinned by key methodological principles.

Conclusions: Enhancement of scoping review stages with Indigenous ways of knowing, being, and doing has the potential to strengthen the utility of scoping review methods to better meet the needs of and ensure relevance for Indigenous populations.

Implications for public health: These enhancements can increase the potential for knowledge translation and implementation of culturally relevant evidence-based approaches into practice for Indigenous populations and for other populations who experience health inequities.

Key words: Indigenous knowledge, Aboriginal and Torres Strait Islander knowledge, methodological framework, scoping review, knowledge translation, Participatory

Objective

Research with Indigenous¹ communities and by Indigenous researchers has continued to evolve over time.¹ The majority of research with Indigenous populations, prior to the 1990s, had been characterised by dominant discourses and legacies of ethno-centrism which problematised communities and positioned Western science as having the only solutions to “Indigenous problems”. These discourses have failed to recognise the contextual influences of racism, discrimination, dispossession, and oppression in

the creation of these ‘problems’.^{2–6} The emergence of Indigenous and decolonising methodologies by Indigenous academics throughout the 1990s, which prioritised Indigenous wisdom and knowledges, coincided with a shift towards the implementation of ethical research frameworks.^{1,6,7} Additionally, the developments of social sciences, feminism, and participatory approaches offered alternative points of view and challenged prevailing and dominant discourses of non-Indigenous research.^{1,6,8} In an Australian context, the emergence of accountability and ethical structures have been embedded in health research to ensure quality and safety of research with Indigenous

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¹The term Indigenous is used to refer globally to Indigenous or First Nations populations including Aboriginal and Torres Strait Islander populations. Aboriginal and Torres Strait Islander is used when referring specifically to this context and population.

communities. These structures contribute to research projects which are relevant, effective, and respectful.^{9–13}

The emergence of Indigenous methodologies was an active reclamation of space, of colonial resistance and self-determination.⁷ Indigenous scholars in Australia and New Zealand created opportunities for the prioritisation of Indigenous methodologies and methods that are both culturally relevant and responsive to the needs of Indigenous communities.^{7,14,15} An Indigenous methodology is underpinned by ontology (ways of being/how we perceive our reality), epistemology (ways of knowing/how we think about it), and axiology (ways of doing/values and beliefs). An Indigenous methodology from an Aboriginal and Torres Strait Islander perspective requires that research responds to community-driven priorities, is of benefit to the community and is grounded in relationality, partnerships, and reciprocity.^{1,5,7,14,15} An Indigenous methodology can include both Indigenous and non-Indigenous methods; however, it is always consistent with Indigenous ways of knowing, being and doing. Indigenous methodologies centre Indigenous knowledge and understanding and then identify the most appropriate method to meet that need.¹ Those methods are then adapted as necessary through the process of decolonising. Decolonising is an approach which involves unravelling and challenging dominant or Eurocentric discourses across systems and structures.⁷ An example in a research context of decolonising methods is to challenge dominant methods which can contribute to or perpetuate oppression and disempower communities.⁷ Decolonising methods on their own are applied within predominantly Western frameworks to adapt methodologies and methods to incorporate or better suit Indigenous ways of knowing, being and doing.⁷

Reviewing literature and evidence can be a culturally relevant way to communicate with “dominant system academia”.¹ The process of reviewing evidence acknowledges and builds upon cultural knowledge and stories by sharing what is already known from an evidence-based perspective.¹ For Indigenous contexts and populations, culturally relevant understandings can enhance implementation and uptake of research and more effectively translate into improved health and wellbeing outcomes.^{7,16,17} The process of integrating cultural ways of knowing, being and doing, particularly story-telling and sharing, with processes for systematically reviewing evidence is not common in health research.

From an Indigenous knowledge perspective, the process of sharing or storytelling is consistent with cultural practices.¹ Within non-Indigenous research, reviews of evidence are conducted across diverse contexts for different reasons, questions of interest, and evidence types. The two most common review types include systematic reviews, which emerged in the 1980s and more recently scoping reviews, both have increased in use throughout the 2000s as part of a growing emphasis on evidence-based health care^{18,35}. The process of systematically reviewing primary research enables the documentation of understandings of what has been tried, effectiveness, gaps in evidence, and informs evidence-based practice in health services and systems.¹⁸ A scoping review method¹⁹ is well suited for topics which require access to a breadth of peer reviewed and grey literature and therefore is particularly useful for understandings and research questions of importance to Aboriginal and Torres Strait Islander populations.²⁰ The scoping review method outlined in published review guidelines outlines six stages: 1) Identify

the research question; 2) Identify relevant studies; 3) Study selection; 4) Charting Data; 5) Collating, reporting and summarising the results; and 6) Consultation.²¹ Scoping review methods have continued to be enhanced to enable consistent and standardised approaches, although, there are still inconsistencies in applying these guidelines.^{18,21–23} For example, an evaluation of the methodology in 2014 highlighted the need for clarity for inclusion criteria and presentation of results.⁴⁴ Further, inconsistency in the conduct of reviews resulted in clearer guidance developed by JBI (Joanna Briggs Institute) with an aim to improve the utility of the method.¹⁸ Participatory, collaborative and consumer-driven research continues to gain momentum internationally with health services increasingly implementing consumer engagement strategies and researchers considering how they can involve consumers and stakeholders in the research process.^{8,24} Despite this focus, published scoping reviews rarely describe the processes undertaken within the consultation stage, or undertake this stage at all.^{23,41} This paper argues that through prioritising Indigenous ways of knowing, being and doing this process can not only contribute to, but enhance, scoping review methods.

Methods

The described methodological enhancement (Table 1) was developed and implemented by Wardliparingga Aboriginal Health Equity, South Australian Health and Medical Research Institute (SAHMRI). Consistent with an Indigenous methodology, the authors are part of and work with Indigenous communities²⁵ and adhere to the ways of working defined by the South Australian Aboriginal and Torres Strait Islander community. The South Australian Aboriginal Health Research Accord⁹ requires that research is informed by community priorities, designed in partnership, and benefits Aboriginal and Torres Strait Islander peoples and communities. Indigenous methodology principles of reciprocity, partnership, co-design, and collaboration can be embedded into existing scoping review methods which currently include consultation and engagement.^{1,3} The enhancements outlined in this manuscript were undertaken as part of a broader program of work that included an Advisory Group which aimed to provide advice and guidance on the program of work including implementation, interpretation of findings and recommendations for these findings to inform and influence health systems, policy and practice. The expanded method detailed in this manuscript allows for a collaborative approach that prioritises Indigenous knowledge, expertise, and engagement.

The first enhancement of the scoping review methodology was to reconceptualise the stage of consultation to partnership which is grounded in relationality and integrated throughout the review stages. For the method described in this paper, the inclusion of Indigenous knowledges and expertise was embedded through an Advisory Group. The group was established with a membership specifically selected for the research question. Membership includes both Indigenous community and relevant industry stakeholder knowledge and expertise. The Advisory Group is governed by Terms of Reference and the goal of the group is to provide advice and guidance on implementation, interpretation of findings, and to inform recommendations which influence health systems, policy, and practice. This manuscript outlines the process, benefits, challenges, and opportunities for expanding the scoping review method to integrate Indigenous knowledges. The following sections detail the

Table 1: Scoping review methodology – Integrating Indigenous knowledge.				
Stage	Arksey and O'Malley ¹⁹	Challenges ²¹	Recommendations ²¹	Integrating Indigenous Knowledge
1) Partnership	Consumer and stakeholder involvement to suggest additional references and insights.	This stage is originally listed as optional, and it is not clear about when, how and why to undertake consultation.	Should be an essential component with a clearly established purpose. Preliminary findings can be used as a foundation for consultation with incorporated opportunities for knowledge transfer and exchange.	<ul style="list-style-type: none"> • A genuine partnership approach based on relationships and collaborative processes integrated across each stage, moving beyond consultation.
2) Identifying the research question	Clearly defined question provides breadth of coverage to inform subsequent stages.	Scoping review questions are broad and establishing a purpose is not associated with a framework stage.	Clear purpose, rationale and intended outcome with defined concept, population and outcomes of interest.	<ul style="list-style-type: none"> • Co-production of review question with a culturally relevant context, target population, and concept/ outcome of interest.
3) Identifying relevant studies	Development of search strategy including search terms, time spans, sources as well as resources available and limitations.	Balancing breadth and comprehensiveness of the scoping review with feasibility of resources.	Research question and purpose guide the search strategy.	<ul style="list-style-type: none"> • Flexible consultations and collaboration with cultural and industry expertise to identify additional studies. • Breadth for topics with emerging peer reviewed evidence.
4) Study selection	Post hoc inclusion and exclusion based on criteria informed by the research question.	Misleading – not a linear process and the process for decision making not defined.	Iterative with reviewers meeting at the beginning, mid-point and final stages searching the literature, refining the search strategy, and reviewing articles for inclusion.	<ul style="list-style-type: none"> • Co-produced selection criteria. • Reviewers with cultural and content knowledge. • Culturally grounded study selection.
5) Charting the data	A data-charting form is developed and used to extract data from each study.	The nature and extent of data to extract from included studies requires clarity.	Data charting is collectively developed by the research team with an iterative process to charting updating through the extraction.	<ul style="list-style-type: none"> • Co-developed extraction tool. • Cultural Appraisal. • Culturally relevant and useful data extracted for service provision/policy makers etc.
6) Collating, summarising and reporting the results	Intended to present an overview of all material reviewed and requires a consistent approach to reporting all findings.	Limited detail and the steps are summarised as one framework stage.	Three distinct steps 1) Analysis including descriptive numerical summary and qualitative thematic 2) Reporting the results as per the intended purpose and 3) Implications of findings for future research, practice and policy.	<ul style="list-style-type: none"> • Collaborative synthesis of findings to ensure accuracy, representative of experiences and have practical utilisation e.g knowledge translation and benefit to community.

Adapted from Levac, Colquhoun and O'Brien 2010 "Scoping Studies: advancing the methodology".²¹

Indigenous informed methodological enhancements for a partnership approach to the scoping review stages.

Results and discussion: the enhancements

Partnership

Participatory approaches are increasingly used in Indigenous research because of their ability to recognise that people are influenced by the contexts in which they live.^{8,26,27} Participatory research is underpinned by partnership approaches which involve researchers and stakeholders collaboratively working together in the implementation and translation of research.^{8,44} Partnership approaches to research with Aboriginal and Torres Strait communities should be grounded in the establishment of mutual trust that enables Aboriginal and Torres Strait Islander people to have an integral role in research which effects their lives and communities.⁹ Partnership approaches described in this enhancement are based on relationships and collaborative processes which move beyond consultation. Approaches which keep the end-user in mind when planning and implementing research, require that research priorities and questions align with community needs.²⁴ Priorities for research should arise from and have the endorsement of the community^{9,10,13}. The involvement of community and key stakeholders in developing research proposals and plans enhances acceptability, relevance, and accountability.²⁴ Governance structures such as Reference Groups or Advisory Groups are often established to ensure that research addresses community priorities and enables the community to inform the methods and provide guidance throughout the research process^{9,10,13,28,29}. Approaches to governance, including membership, meetings, and frequency can be flexible depending on the research project and question. Partnership approaches should be genuinely considered and integrated throughout the research process^{9,30}. Such approaches enable the integration of knowledges for enhanced meaning, understanding, and interpretation of research findings strengthening their relevance and ability to meet community-identified priorities.

Identify the scoping review research question

The starting point for a scoping review requires careful consideration to identify the question which will subsequently shape a clear purpose or aim, the search strategy, and inclusion criteria.^{19,21} Detailed processes to identify the review question will allow for parameters and implications of specifying particular population groups, interventions or outcomes to be fully considered.¹⁹ For a scoping review it is recommended that review questions are broad with a clearly articulated scope of inquiry.^{19,21} The recommended approach for scoping reviews includes defining the population, concept, and context. A partnership approach can be achieved from the inception of the review by being guided by ethical research and accountability processes defined by Indigenous peoples.⁹⁻¹² A collaborative process can ensure that the review question and criteria are consistent with community-identified needs and informed by the lived experience of Aboriginal and Torres Strait Islander communities. Through collaboration, consideration can be given to potential challenges that may be encountered in accessing information and support the early identification of strategies that could be implemented in the method.

For the enhanced method the authors co-produced the research questions with the Advisory Group, presenting a draft question and review protocol for discussion to clarify, enhance, and deepen the relevance of the question. A workshop discussion defined the aim and objectives of the review and refinements were made as needed based on feedback and discussions with the Advisory Group. For example, to enhance the review question, the Advisory Group suggested that the question could be made more explicit and identified the need for a clear definition of a health care program as well as suggesting a depiction of the type of programs that definition would include.

Identify relevant studies

The process of identifying relevant studies or searching requires a comprehensive strategy to achieve breadth and depth in the identification of primary studies, published and unpublished, suitable for answering the review question.^{19,21,22} Practical decisions are made about the scope of the review, decisions justified, and limitations considered.^{21,22} A team should be assembled at this stage with appropriate methodological and context expertise.²¹ Consistent with Indigenous methodologies, ways of knowing, being and doing must be embedded in all matters and contexts which concern Indigenous communities, from research to policy making and practice.¹² Searching can include electronic databases, reference lists, hand-searching of key journals and exploration of existing networks.¹⁹ The search itself can be consistent with the guidelines, with a search strategy implemented to identify peer-reviewed publications and grey literature. In developing the search strategy, the expertise of the research team and the Advisory Group should be utilised to access key grey literature search engines (e.g. Australian Indigenous HealthInfoNet and The Lowitja Institute) relevant to Aboriginal and Torres Strait Islander health publishing.^{31,32}

To integrate a partnership approach as part of the enhanced method, the Advisory Group informed the search strategy and supported the identification of additional sources and key authors. This strategy enabled the identification of sources containing important data from a cultural and/or social perspective which would otherwise be left behind or excluded by relying solely on peer review and grey literature database searching or due to stringent criteria. In recognition of the many demands often placed upon community members and leaders, this approach was highly flexible and consultations included email and face-to-face conversations to identify additional programs.

Study selection

The scoping review method recommends the development of inclusion and exclusion criteria which are based on the review question.¹⁸ Study selection is an iterative process which involves searching the literature, refining the search strategy, and reviewing articles for inclusion.²¹ Levac et al.²¹ recommend that the criteria are reviewed and discussed by the team for consistency and that reviewers assess abstracts independently, with a process in place for a third reviewer to resolve any disagreement. As part of the iterative process, reviewer meetings can be held at the beginning, middle and end for clarifications, to discuss challenges or to refine search strategy or criteria if needed.²² When considering complex research questions or concepts for Indigenous research, Indigenous researchers with cultural knowledge and lived experiences are best placed to consider

the nuances, complexities, histories and cultural understandings of phenomena that may not otherwise be understood.^{1,3,7,14,15} For Indigenous populations or other population groups marginalised or harmed by previous research practices, the comprehensive cultural knowledge and understanding of the researcher not only contributes to quality, but also to safety for the population of interest.^{33,34} A scoping review aims to provide a broad overview or assist in mapping evidence and is not usually intended to produce a critically appraised and synthesised result or answer to a question.³⁵ Therefore, critical appraisal is not required as part of the scoping review method but can be undertaken if it aligns with the scoping review aim.³⁵ To ensure culturally relevant understandings specifically for Aboriginal and Torres Strait Islander populations an appraisal from a cultural perspective can be undertaken using The Aboriginal and Torres Strait Islander Quality Appraisal Tool: appraising research quality from an Aboriginal and Torres Strait Islander perspective (APPENDIX 1).^{17,36}

For the enhanced method the study selection criteria were developed in collaboration with the Advisory Group and implemented to assess programs for eligibility. Reviewers included Indigenous researchers e.g. both Aboriginal and Torres Strait Islander researchers with cultural and contextual knowledge. This supported an objective process which was culturally grounded. Consistent with the method, the two reviewers met beforehand to discuss the context and mutual understandings of the topic and/or question of interest and then were guided by the criteria to independently assess the studies for inclusion. The utilisation of the quality appraisal tool as part of this described enhanced method was not specifically for study inclusion and as such is described in the charting of the data stage below. The Advisory Group remained informed of potential refinements with advice sought for critical changes. The PRISMA diagram was presented to provide an opportunity for the review to be guided by their cultural knowledge and lived experience. These approaches honour in practice that Indigenous people are the experts about their own lives and empowering for all involved.^{1,7,17,33}

Charting data

For included studies, data are charted according to elements such as the study population, type of intervention, outcome, or measures.¹⁹ It is recommended that a data charting form, which will determine the variables to extract, should be developed collectively with the research team. This is an iterative process which allows for continually updating the form to include data if required.²¹ Scoping Review approaches which are seeking breadth can allow data of cultural and contextual relevance to be collected and included in a systematic way.²¹ The Aboriginal and Torres Strait Islander Quality Appraisal Tool introduced above in the study selection stage, can ensure charting of data which is relevant for Aboriginal and Torres Strait Islander questions of interest.^{17,36} The tool has utility not only for inclusion/exclusion purposes but to enhance cultural meaning and understandings relevant to the population of interest. The tool was developed specifically for the appraisal of literature reviewed for Aboriginal and Torres Strait Islander questions of interest. The questions in the tool are consistent with Aboriginal and Torres Strait Islander ways of knowing, being, and doing and principles of Indigenous methodologies. The questions cover whether the research was a need or priority determined by the community, consultation and engagement, leadership and governance, community, and cultural protocols. Questions also include intellectual and cultural

property rights, benefits, translation, and whether the research was strengths-based and informed by an Indigenous research paradigm. Evidence indicates that research which is reflective of community values, priorities, and perspectives can contribute to more relevant and meaningful outputs for Aboriginal and Torres Strait Islander people with a greater potential for knowledge translation.³⁶

The enhanced partnership approach was implemented with Advisory Group input into the extraction tool to ensure that information collected was relevant. A draft extraction tool was developed and included refinements based on feedback from the Advisory Group and throughout the process of data extraction. In charting the data, *The Aboriginal and Torres Strait Islander Quality Appraisal Tool*³⁶ was utilised for the purpose of systematically assessing/reviewing and charting types of studies and features from a cultural perspective and this information was included as results.

Collating, reporting, and summarising the results

The analysis in scoping reviews, also described as collating or summarising results, often includes descriptive numerical summaries to describe the overall number of included studies and their characteristics.²¹ Reporting the results requires consideration of the intended outcome and then presenting findings in a way that is best able to do that. To enhance the process, it is recommended that the implications are considered within a broader context including for research, policy and practice.⁴³ Through the purposeful consideration of analyses there is a greater ability to have translation of results that inform further research, policy and practice.²¹ It is imperative that Indigenous communities have ownership and control over Indigenous knowledge and that communities are actively involved in giving meaning to data about them and planning for its use.^{9,10,13} Using preliminary findings to consult with stakeholders can build on the evidence and offer a higher level of meaning, content expertise and perspectives.²¹ Aboriginal and Torres Strait Islander communication styles, such as thoughtful, deep listening, thinking, reflecting and considering, are processes which may take time.⁴² Further, consideration should be given to the cultural responsibilities and community priorities of Advisory Group members, these factors can inform the approach for engagement and capacity of Advisory Group members to engage with the research project at any time.^{9,10,13} Flexible approaches are required by the researcher to develop and maintain relationships with the community and key decision makers and leaders throughout the entire research cycle.^{9,10,13} This enables an integrated and embedded approach to knowledge translation and the ability for research findings to influence policy and practice.^{9,10,13,37}

To integrate partnership approaches in this stage consultation occurred with the Advisory Group to determine how they would prefer for findings to be presented to them. Findings were synthesised with the Advisory Group through *Yarning* as a conversation approach prioritising Indigenous communication processes.^{38–40} Findings were prepared and presented in a range of mediums including slides, charts, graphs, tables, and handouts.³⁰ The approach remained consistent with relationality and prioritising the knowledges of the Advisory Group through a 'workshop' style discussion to make sense of and give meaning to the results and to ensure they were accurate, representative and relevant to lived experiences. The Advisory Group informed strategy for the

dissemination of the findings and strategic direction for how best to utilise the findings to influence systems, policy, and practice change.

Implications for public health

Indigenous ways of knowing, being, and doing are essential in research with Indigenous populations to ensure that research is of maximum benefit to the community and can be translated into meaningful policy and practice changes which address the significant health inequities experienced. From an Indigenous perspective, a scoping review can act as a method of storytelling, understanding, and sharing, aiming to translate evidence into culturally relevant and beneficial changes in practice.

The existing scoping review methodology by Levac and colleagues²¹ is enhanced by the incorporation of partnership approaches which are culturally relevant, relational, reciprocal, and of benefit to populations and communities. Partnership approaches can be implemented to define the question, inform the search, identify relevant studies, determine culturally and contextually relevant variables to chart, inform analysis, and plan for the most effective translation of those findings.

Conclusions

Indigenous methodological approaches are increasingly used in Indigenous research to inform culturally relevant research understandings. Relationships between the researcher and the community enable a partnership approach to research which is grounded in the establishment of mutual trust and enabling Aboriginal and Torres Strait Islander people to have an integral role in research for their communities^{9-13,37}. The skills and knowledge of community are important resources in the research process, and consistent with partnership approaches, the balance of power resides with Aboriginal and Torres Strait Islander people^{9,10,13}. From the outset, a collaborative approach enables knowledge translation, benefit, and impact to be planned for accordingly within the review.

Participatory approaches which centre consumer lived experiences in the research process have the potential to enhance the meaning, understanding, and interpretation of research benefits for those it is intended to serve. The expansion of the scoping review method to prioritise Indigenous knowledges and expertise as well as the use of a culturally relevant appraisal influences research practice and translation for Aboriginal and Torres Strait Islander communities. Researchers who genuinely integrate the principles of Indigenous methodologies can avoid mistakes of the past, listen to and empower Indigenous communities and researchers to own, control, and tell the stories of and for Indigenous people, as they always have.

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Authors' contributions

TB implemented the enhanced method and prepared this manuscript. The Advisory Group were integral in the implementation of the method expansion and provided input into and reviewed this manuscript. AB, KC, NH, OP provided leadership advice and guidance into the methodology, the conceptual design, the implementation of the enhancement and the writing of this manuscript.

Authors' information

Dr Tina Brodie is a Yawarrawarrka/Yandruwandha woman and Research Fellow in Wardliparingga Aboriginal Health Equity. Tina's research explores Aboriginal and Torres Strait Islander social and emotional wellbeing, including the social determinants of health. Tina has expertise in Indigenous methodologies and culturally responsive and ethical ways of working and engaging Aboriginal and Torres Strait Islander people and communities in research.

A/Prof Natasha Howard is the Platform Lead for Implementation Sciences in Wardliparingga Aboriginal Health Equity. The platform incorporates a systems view and privileges Indigenous knowledges to deliver mixed-method inter-disciplinary perspectives which aim to generate policy and practice-based evidence on the social determinants of health.

A/Prof Odette Pearson is a Kuku Yalanji/Torres Strait Islander and Co-Theme Leader in Wardliparingga Aboriginal Health Equity. Odette's research seeks to understand health and social inequities experienced by Indigenous populations through the inclusion of Aboriginal communities in defining their health and wellbeing and Indigenous data governance and sovereignty to derive greater benefit for the population.

A/Prof Kootsy Canuto is a Torres Strait Islander (Wagadagam Clan) and Aboriginal and Torres Strait Islander male health and wellbeing researcher at Flinders University, College of Medicine and Public Health. His research is predominantly with Aboriginal and Torres Strait Islander males focused on the utilisation of primary health care services and facilitating the co-design of social and emotional wellbeing programs.

Professor Alex Brown is an Aboriginal medical doctor and researcher who over the last 20 years has established an extensive and unique research program with a particular focus on outlining and overcoming health disparities.

Ethical statement

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Conflicts of interest

The authors have no competing interests to declare.

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References

1. Wilson S. *Research is ceremony: Indigenous research methods*. Black Point. Nova Scotia: Fernwood Publishing; 2008.
2. Walter M, Andersen C. *Indigenous statistics : a quantitative research methodology*. Walnut Creek, United States: Routledge; 2013.
3. Moreton-Robinson A. Towards an Australian Indigenous women's standpoint theory. *Aust Fem Stud* 2013;**28**(78):331–47.
4. Moreton-Robinson A. Whiteness. *Epistemology and Indigenous representation*. Aboriginal Studies Press; 2004.
5. Moreton-Robinson AM, Walter M, editors. *Indigenous methodologies in social research*; 2009.
6. Kendall E, Sunderland N, Barnett L, Nalder G, Matthews C. Beyond the rhetoric of participatory research in Indigenous communities: advances in Australia over the last decade. *Qual Health Res* 2011;**21**(12):1719–28.
7. Smith LT. *Decolonizing methodologies: research and Indigenous peoples*. London: Zed Books; 2012.
8. Cargo M, Mercer SL. The value and challenges of participatory research: strengthening its practice. *Annu Rev Publ Health* 2008;**29**(1):325–50.
9. SAHMRI. *South Australian Aboriginal Health Research Accord: companion document*. Adelaide: South Australian Health and Medical Research Institute (SAHMRI); 2014.
10. Keeping NHMRC. *Research on track II: a companion document to Ethical conduct in research with Aboriginal and Torres Strait Islander peoples and communities: guidelines for researchers and stakeholders*. Canberra: National Health and Medical Research Council; 2018.
11. Jamieson LM, Paradies YC, Eades S, Chong A, Maple-Brown L, Morris P, et al. Ten principles relevant to health research among Indigenous populations. *Med J Aust* 2012;**197**(1):16.
12. Dudgeon P, Kelly K, Walker R. Closing the gaps in and through Indigenous health research: guidelines, processes and practices. *Aust Aborig Stud* 2010;**20**(2):81–91 (canberra, ACT : 1983).
13. AIATSIS. *AIATSIS code of ethics for Aboriginal and Torres Strait Islander research*. Australian Institute of Aboriginal and Torres Strait Islander Studies; 2020. AIATSIS.
14. Rigney L-I. Internationalization of an Indigenous anticolonial cultural critique of research methodologies: a guide to indigenist research methodology and its principles. *Wicazo Sa Rev* 1999;**14**(2):109–21.
15. Martin-Miraboopa K-B. Ways of knowing, being and doing: a theoretical framework and methods for Indigenous and Indigenist re-search. *J Aust Stud* 2003;**27**(76):203–14.
16. Cochran P, Marshall C, Garcia-Downing C, Kendall E, Cook D, McCubbin L, et al. Indigenous ways of knowing: implications for participatory research and community. *Am J Publ Health* 2008;**98**(1):22–7.
17. Harfield S, Pearson O, Morey K, Kite E, Canuto K, Glover K, et al. Assessing the quality of health research from an Indigenous perspective: the Aboriginal and Torres Strait Islander quality appraisal tool. *BMC Med Res Methodol* 2020;**20**(1):79.
18. Peters MD, Godfrey CM, Khalil H, McInerney P, Parker D, Soares CB. Guidance for conducting systematic scoping reviews. *Int J Evid Base Healthc* 2015;**13**(3):141–6.
19. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol* 2005;**8**(1):19–32.
20. Clive R. Finding your voice: placing and sourcing an Aboriginal health organisation's published and grey literature. *Aust Aborig Stud* [Canberra].
21. Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci : IS* 2010;**5**:69.
22. Colquhoun HL, Levac D, O'Brien KK, Straus S, Tricco AC, Perrier L, et al. Scoping reviews: time for clarity in definition, methods, and reporting. *J Clin Epidemiol* 2014;**67**(12):1291–4.
23. Tricco AC, Lillie E, Zarin W, O'Brien K, Colquhoun H, Kastner M, et al. A scoping review on the conduct and reporting of scoping reviews. *BMC Med Res Methodol* 2016;**16**(1):15.
24. Miller CL, Mott K, Cousins M, Miller S, Johnson A, Lawson T, et al. Integrating consumer engagement in health and medical research – an Australian framework. *Health Res Pol Syst* 2017;**15**(1):9.
25. Redvers N, Blondin Bs. Traditional Indigenous medicine in North America: a scoping review. *PLoS One* 2020;**15**(8):e0237531.
26. Cornwall A, Jewkes R. What is participatory research? *Soc Sci Med* 1995;**41**(12):1667–76.
27. Baum F, MacDougall C, Smith D. Participatory action research. *J Epidemiol Community Health* 2006;**60**(10):854–7.
28. Hunt J. *Engaging with Indigenous Australia—exploring the conditions for effective relationships with Aboriginal and Torres Strait Islander communities*. Closing the Gap Clearinghouse; 2013. Australian Institute of Health and Welfare & Melbourne Australian Institute of Family Studies. Canberra: Issues paper no. 5. Produced for the.
29. Laycock A. *Researching Indigenous health : a practical guide for researchers*. Carlton South, Vic.: Lowitja Institute; 2011.
30. Bond C, Foley W, Askew D. “It puts a human face on the researched”—A qualitative evaluation of an Indigenous health research governance model. *Aust N Z J Publ Health* 2016;**40**(S1):S89–95.
31. Tieman JJ, Lawrence MA, Damarell RA, Sladek RM, Nikolof A. Lit.search: fast tracking access to Aboriginal and Torres Strait Islander health literature. *Aust Health Rev: a publication of the Australian Hospital Association* 2014;**38**(5):541–5.
32. Thomson N. Translational research and the Australian Indigenous HealthInfoNet. *Aust Indig HealthInfoNet* 2012.
33. Ewen SC, Ryan T, Platania-Phung C. Capacity building of the Australian Aboriginal and Torres Strait Islander health researcher workforce: a narrative review. *Hum Resour Health* 2019;**17**(1):10.
34. Mohamed J, Matthews V, Bainbridge R, Williams M. Who is speaking for us? Identifying Aboriginal and Torres Strait Islander scholarship in health research. *Med J Aust* 2021;**215**(8):383–e1.
35. Munn Z, Peters MDJ, Stern C, Tufanaru C, McArthur A, Aromataris E. Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Med Res Methodol* 2018;**18**(1):143.
36. Harfield S, Gibson O, Morey K, Kite E, Glover K, Canuto K, et al. *The aboriginal and Torres Strait Islander quality appraisal tool: appraising research quality from an aboriginal and Torres Strait Islander perspective – companion document*. 2020.
37. Wand A, Eades S. Navigating the process of developing a research project in Aboriginal health. *Med J Aust* 2008;**188**(10):584–7.
38. Bessarab D, Ng'andu B. Yarning about yarning as a legitimate method in Indigenous research. *International Journal of Critical Indigenous Studies* 2010;**3**(1):37–50.
39. Fredericks B, Adams K, Finlay S, Fletcher G, Andy S, Briggs L, et al. Engaging the practice of Indigenous yarning in action research. *ALAR: Action Learning and Action Research Journal* 2011;**17**(2):12–24.
40. Geia LK, Hayes B, Usher K. Yarning/Aboriginal storytelling: towards an understanding of an Indigenous perspective and its implications for research practice. *Contemp Nurse* 2013;**46**(1):13–7.
41. Pollock D, Alexander L, Munn Z, Peters MDJ, Khalil H, Godfrey CM, et al. Moving from consultation to co-creation with knowledge users in scoping reviews: guidance from the JBI Scoping Review Methodology Group. *JBI Evidence Synthesis* 2022;**20**(4).
42. Duke DLM, Prictor M, Ekinci E, Hachem M, Burchill LJ. Culturally adaptive governance—building a New framework for equity in Aboriginal and Torres Strait Islander health research: theoretical basis, ethics, attributes and evaluation. *Int J Environ Res Publ Health* 2021;**18**(15):7943.
43. Bainbridge R, Tsey K, McCalman J, Kinchin I, Saunders V, Watkin Lui F, et al. No one's discussing the elephant in the room: contemplating questions of research impact and benefit in Aboriginal and Torres Strait Islander Australian health research. *BMC Publ Health* 2015;**15**(1):696.
44. Khalil H, Bennett M, Godfrey C, McInerney P, Munn Z, Peters M. Evaluation of the JBI scoping reviews methodology by current users. *JBI Evidence Implementation* 2020;**18**(1).

Appendix A Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.anzjph.2023.100096>.