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Decolonising qualitative research to explore the experiences of Manitoba's urban Indigenous population living with type 2 diabetes mellitus, obesity and bariatric surgery

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ABSTRACT

Introduction Obesity and type 2 diabetes mellitus (T2DM) are growing global health concerns associated with significant morbidity, mortality and healthcare expenditures. Due to histories of colonisation and contemporary marginalisation, Canada's Indigenous populations are disproportionately burdened by obesity, T2DM and many other chronic illnesses. Culturally appropriate research on experiences and outcomes of Indigenous patients undergoing bariatric surgery in Canada is scarce. This qualitative study protocol will use a decolonising approach guided by an Indigenous Elder to explore the perspectives and experiences of urban Indigenous Manitobans with respect to T2DM, obesity and bariatric surgery. This knowledge will guide the development and implementation of culturally sensitive bariatric care.

Methods and analysis Sequential sharing circles (SSCs) and semistructured conversational interviews that have been purposefully designed to be culturally relevant with the guidance of an Indigenous Elder and advisory group (IAG) will be carried out in Winnipeg, Manitoba, Canada. Indigenous adults who are obese (body mass index >35 kg/m^2), have T2DM and live in an urban centre will be recruited. Three groups will be investigated: (1) those who have had bariatric surgery; (2) those on the wait list for bariatric surgery and (3) those not associated with a bariatric surgery programme. Each group of 10–12 participants will be guided through a semistructured script led by an Indigenous Elder. Elder-facilitated conversational interviews will also be completed following the SSCs. All content will be audio recorded and transcribed. Thematic analysis will be used to identify emerging patterns using a constructive grounded theory approach.

Ethics and dissemination This study has received ethical approval from the University of Manitoba Health Research Ethics Board. Findings will inform the development and implementation of culturally sensitive programmes at Manitoba's Centre for Metabolic and Bariatric Surgery. Results will be disseminated in peer-reviewed scientific journals, at obesity and Indigenous health conferences, and knowledge sharing ceremonies.

Strengths and limitations of this study

- This will be the first Canadian study to use a culturally relevant, decolonising sequential sharing circle and conversational interview data collection method to gain knowledge of the experiences and perspectives of an urban Indigenous population living with obesity and type 2 diabetes mellitus with reference to bariatric surgery.
- Through the use of culturally appropriate research methods designed in consultation with an Indigenous Elder and community advisory group, this research will respond to the Truth and Reconciliation Commission of Canada: Calls to Action #19 to improve meaningful research engagement with Indigenous peoples and health outcomes.
- The application of member checking and Dedoose coding in the methodology will improve data credibility and transferability.
- Recruitment for the study will involve self-identification as Indigenous and self-referral, which may exclude the views and opinions of some eligible participants.
- Sequential sharing circle size is small. Future studies with larger samples can increase qualitative rigour and authenticity of the findings.

INTRODUCTION

The purpose of outlining this project protocol prior to the study being completed is to highlight our innovative and purposefully designed decolonising qualitative research to explore the experiences of Manitoba's urban Indigenous populations living with type 2 diabetes mellitus (T2DM), obesity and bariatric surgery. Obesity and T2DM are growing global health concerns associated with significant morbidity, mortality and healthcare expenditures.[1] Obesity increases the risk for insulin resistance, T2DM,

cardiovascular disease and all-cause mortality.[2] Due to histories of colonisation, ongoing impacts of systemic racism, and oppressive governmental policies, contemporary inequities in the social determinants of health among Canada's indigenous populations, including First Nations, Inuit and Métis, contribute to high rates of chronic disease, obesity and T2DM.[3–7] Indeed, diabetes incidence in Indigenous peoples is 3–5 times the national average.[8] In order to better serve First Nation, Inuit and Métis peoples and close the gaps in health outcomes and access to healthcare services, more culturally sensitive and appropriate research is needed. This protocol is one example of how decolonising research in these areas can occur.

Previous research suggests that bariatric surgery is an effective treatment for improvement of T2DM in obese patients.[9] Several studies, including multiple randomised control trials demonstrate that bariatric surgery is effective for weight loss and remission of T2DM and metabolic syndrome when compared with medical therapy alone in the overall population.[9–20] A study with Australian Indigenous populations demonstrated a 66% diabetes remission rate following gastric banding.[21] Although literature relating to Canada's Indigenous bariatric surgery population is scarce, available research suggests that surgery is safe and effective, and this patient group may respond better to the intervention based on higher resolution rates of obesity-related comorbidities.[7] Yet, research on bariatric surgery programme delivery including access, barriers, experiences and outcomes of urban Indigenous peoples is limited, especially that which involves a decolonising, culturally grounded and sensitive methodological approach.

The Truth and Reconciliation Commission (TRC) of Canada implores that research be done in consultation with Indigenous peoples to identify and close the gaps in Indigenous health inequities, with focus on specific indicators including chronic diseases and appropriate, culturally sensitive health services [22, p. 2–3]. Additionally, Canadian healthcare system practitioners are called to recognise the value of, and increase use of Indigenous healing practices, in collaboration with Indigenous healers and Elders in the treatment of Indigenous patients [22, p. 3]. Decolonising research approaches with Indigenous participation—that which is culturally sensitive, led by local knowledge, histories, worldviews and perspectives—could significantly inform changes to healthcare systems that would positively impact current health inequities and wellness outcomes.[8 23]

One decolonising approach employed in Canadian Indigenous research contexts involves 'sharing circles', understood as a sacred ceremony where Elders function as the spiritual leaders or guides.[24–27] These typically involve a sacred object (often a feather or stone) being passed around turn-by-turn to all those present in the circle where everyone has a chance to speak and share their knowledge and experiences.[25 28] Sharing circles are also typically opened with a smudging ceremony—the burning of medicines like sage or sweetgrass to cleanse the mind and heart—facilitated by a respected Elder or knowledge keeper. Like focus groups, sharing circles in research contexts often involve a series of in-depth conversations with a group of people coming together to explore questions about an issue with each other over a set period of time.[27 29] Unlike focus groups, however, sharing circles are approached in a sacred and spiritual manner facilitated by the smudging of medicines, sacred objects and Elder guidance.[28] The open conversational style and environment also builds collective narratives while honouring oral traditions of storytelling in Indigenous cultures.[25 30] As each person listens to each other they are often encouraged by the elder to be actively present; hear the story, reflect on it, examine the context in which it is told, and then to identify with and see one's self through the story. Through its structure and sacred nature, sharing circles can forge powerful relationships among the story being shared, the story tellers and the listeners or audience. It is a particular style of narrative and storytelling that builds on a safe space to allow reflections on the relationships between self and others in ways that reaffirm positive shared aspects of identity, culture, healing and wellness.[28] Like sequential focus groups, in comparison with a single session, repeated sequential sharing circle (SSCs) sessions with the same individuals can build further trust and provide more time for stories to be shared.[29]

A one-on-one 'conversational' interview method is another decolonising research approach that is inherently relational and 'aligns with an Indigenous worldview that honours orality as a means of transmitting knowledge' [25, p. 43]. Moreover, this decolonising approach to qualitative interview research is capable of breaking down power hierarchies that can exist between researchers and participants and enables both parties to engage in examining their experiences in the context of life, culture, society and institutions in ways that challenge dominant perspectives.[24] Although similar to sharing circles described previously, these conversational style interviews typically occur with smaller numbers, perhaps two or three and are often focused on one person's experience in more detail. Although employed in other research contexts,[25] decolonising methods of sharing circles and 'conversational' interviews have not been effectively adapted and used in clinical health research with Indigenous populations, especially research involving bariatric surgery programme delivery.

The primary objective of this study protocol is to use decolonising SSCs along with semistructured 'conversational' interviews to explore the perspectives and experiences of urban Indigenous Manitobans living with T2DM and obesity, in the context of bariatric surgery. In doing so, this study will contribute new insights to the limited body of scientific knowledge that exists on bariatric surgery programme delivery, including access, barriers, experiences and outcomes for urban Indigenous peoples in Manitoba. At the same time, this study will advance

effective treatment strategies that are culturally sensitive while encouraging positive, empowering interactions with researchers, participants and healthcare providers. Overall, by better understanding experiences of Indigenous patients living with obesity and T2DM in Manitoba in the contexts of bariatric surgery, this research can significantly impact and improve future healthcare delivery and patient outcomes.[31] By outlining this project protocol, we hope to inspire similar studies in Canada and globally to replicate or disprove the findings. Thiswill encourage more critical and constructive dialogue and further culturally sensitive research on T2DM, obesity and bariatric surgery with Indigenous populations.

METHODS

Research context and framework

The Canadian province of Manitoba has one of the largest Indigenous populations in Canada (13.4%), and Winnipeg's Indigenous population is the highest of any urban centre.[32 33] The research team has created and maintains collaborative partnerships with Indigenous healers, researchers, physicians and Elders. Consultation with the University of Manitoba Ongomiizwin-Indigenous Institute of Health and Healing has informed and guided the development of this research to ensure design and implementation are culturally sensitive and appropriate to foster participant safety, trust, respect and empowerment.[34] In this way, a 'two-eyed seeing' framework will be adopted throughout, where Indigenous and non-Indigenous worldviews or ways of seeing are blended and will work together during all stages of the research.[35 36]

Participants

Participants will be adults who have self-identified as Indigenous at Manitoba's Centre for Metabolic and Bariatric Surgery (CMBS) or a diabetes treatment clinic. All self-identifying participants will have previously consented to be contacted regarding research opportunities. Purposeful sampling will be used to screen potential participants for eligibility. The sample population will consist of three groups: (1) postoperative bariatric surgery patients, identified using the database of Manitobans who have had bariatric surgery; (2) preoperative bariatric surgery patients currently on the Manitoba bariatric surgery waitlist; (3) urban patients who are not involved in the bariatric surgery programme, recruited with the help of community contacts such as Indigenous diabetes educators, Indigenous community Elders and family physicians. All participants will participate in two sharing circles, conducted approximately 6–8 weeks apart and one 'conversational' interview.

Inclusion criteria are defined as patients aged 18 years or older, of Indigenous ethnicity (First Nations, Métis, Inuit) with a body mass index of >35 kg/m^2 and with diagnosis of T2DM, who live in Winnipeg. Those who meet the eligibility criteria will be contacted and informed about the study to determine interest and individually consented prior to participation.

Sample size

Group size will be determined based on descriptions in the literature for similar research by Jacklin *et al*[29] and Whitty-Rogers *et al*[27] and in consultation with the Elder. Given the important role the Elder holds during the sharing circles, it is ultimately their decision as to the number of participants they will accept in each circle, although early conversations have suggested 10–12 per group should be adequate. When determining group size, Elders consider their gifts, teachings and comfort guiding various group sizes. If the topic to be discussed is of a more sensitive nature and could potentially trigger participants, the Elder may choose to limit group size to allow more time for teachings and ceremony in a healing centred approach.[28]

Recruitment

Participants will be purposefully recruited from clinical settings in Winnipeg, Manitoba, Canada. The process for screening for eligibility and recruitment to participate in either group (1) postoperative group or group (2) preoperative group will be facilitated through the CMBS programme, located at the Victoria General Hospital. The CMBS recently completed a mass mail out of permission to be contacted for future research (PTC) and community membership (CM) forms to all current and wait list CMBS patients (n>2300 patients).

Those patients who provide their PTC for research will be screened. The three different participant groups and process for screening/recruitment are: (1) Postoperative group: Participants for the postoperative bariatric surgery group will be determined using the database information and screened from the list of those patients who provided their PTC for future research, who self-identified as Indigenous, who had a previous diagnosis of T2DM prior to surgery, and who have had bariatric surgery; (2) Preoperative group: The CMBS permission to be contacted for future research form (PTC) and CM list (described above) will be used to identify/screen participants for this group. Those CMBS patients who provided their PTC for future research, self-identified as Indigenous, have a diagnosis of T2DM and are currently on the wait list for bariatric surgery will be eligible to participant in the study as part of this group; patient eligibility in groups 1 and 2 will be confirmed through review of CMBS charts and/or the CMBS electronic database; and (3) The non-bariatric surgery informed group requires recruitment outside of the CMBS. Patients, who have a diagnosis of T2DM, have been referred to an endocrinologist at the Health Sciences Centre for diabetes management/treatment, and self-identify as Indigenous are eligible to participate in this group. A diabetes educator or office assistant will provide patients attending their first appointment, who are obese and have T2DM with a PTC for a research study form. Study information posters will be posted in the

waiting area and clinic treatment room to facilitate patient inquiry about the study. Those completing the form who self-identify as Indigenous, are obese, and have T2DM will be contacted by a member of the research team to provide further details about the study and answer any questions the patient may have. Standardised telephone and email recruitment scripts have been developed and reflect the information contained in the informed consent form.

Data generation procedures

The SSCs will be conducted in a culturally safe, sensitive and welcoming site, Migizii Agamik (Bald Eagle Lodge) at the University of Manitoba. Each sharing circle will be 2–3 hours in duration. Individual 'conversational' interviews will be approximately 1 hour in length. The sharing circles and interviews will be facilitated by Gramma Geraldine Shingoose, a local Indigenous Elder. Ceremonial tobacco will be gifted to Elder Shingoose for sharing her knowledge and guiding the development and implementation of the SSCs. A light, T2DM (and when required, bariatric surgery patient) appropriate, nutritious meal (feast) will be provided prior to the sharing circles sessions. Each sharing circle will begin with a smudging ceremony and will include teachings related to knowledge creation during the sharing circle, the sacred nature of the experiences shared (confidentiality) and ownership of the knowledge created by the group. Content of each sharing circle and individual interview will be audio recorded and transcribed.

Elder Shingoose will guide the discussion using semi-structured questions (online supplemental file 1). The format includes open-ended questions presented to all groups as well as questions suited to each group's position in the bariatric surgery journey. The sharing circles that are second in the sequence CCURRINGwill include member-checking procedures.[24] This will ensure the interpretation of the discussion from the group's first session reflects participants' experiences and contributions, in order to verify the interpretation and themes identified are culturally appropriate.

Individual 'conversational' interviews with each sharing circle participant will be conducted following the SSCs to provide an opportunity for further in-depth exploration of the main study themes and individual narratives[25] (online supplemental file 2). These interviews will also be facilitated by Elder Shingoose and will involve a visual Life Story Board to facilitate a deeper conversation and exploration of patients' journeys with obesity and T2DM.[37]

Data analysis

Transcripts from SSCs and individual interviews will be analysed for emerging patterns and themes using Constructivist Grounded Theory strategy.[38] This approach will facilitate exploration of both common and differing experiences related to study-specific topics such as barriers to diabetes care. A secondary analysis of the data will involve comparing and contrasting themes across the three groups. This in-depth interpretation of the data will allow for conclusions to be drawn about aspects of bariatric and T2DM healthcare that can be improved for Indigenous patients and direct the focus of future research. The qualitative data management software system Dedoose V.8.3.17 (2020) will be used to facilitate data analysis. A minimum of two researchers will code the transcripts to ensure rigour and confirmability.[39] One Indigenous researcher will have experience in Indigenous qualitative research methodology to ensure Indigenous knowledge, experience and understanding, as well as a 'two-eyed seeing' framework, is employed and represented within the coding process.[35 36] The themes and coding structures identified will also be compared among the other members of the researcher team to enhance dependability and credibility.[39]

Feedback about the research findings will be provided to participants via member checking and a knowledge sharing meeting for each sharing circle. Member checking is a technique used by facilitators to present research findings and interpretations from past group discussion to obtain feedback and check for authenticity.[29] Member checking provides an opportunity for participants to discuss their thoughts and feelings about the information and to inform further group discussions or interviews. At the beginning of each group's second sharing circle, Elder Shingoose will present summarised preliminary findings from the first sharing circle. Participants will then be encouraged to reflect on their thoughts and feelings regarding the information shared, and provide feedback to ensure accuracy and confirmability.

Patient and public involvement

This project aims to address the TRC of Canada: Calls to Action[22] and acknowledges Indigenous people have experienced previous trauma or past harm. An Indigenous Advisory Group (IAG) consisting of Indigenous Elders, physicians and researchers were consulted in the design of this study to ensure patient voices from their direct experiences were captured following a 'two-eyed seeing' approach.[35 36] The interview question scripts in this research were developed in consultation with Indigenous healers and Elders and are deliberately broad to address experiences of Indigenous patients in a culturally appropriate way.

The recruitment process will not include patient or public involvement. Results from this study will be disseminated to participants at a knowledge sharing meeting and their input will be sought to identify appropriate methods of sharing the knowledge gained to the broader community. Participants will have the opportunity to contribute suggestions for how future research is conducted.

ETHICS AND DISSEMINATION

After meeting eligibility and inclusion criteria and expressing interest in participating in the study, potential participants will meet with a member of the research team, be provided with an overview of the study, review

the informed consent form and have the opportunity to ask questions. The consent form outlines the purpose and methodology of the study as well as the ethical safeguards regarding data protection and privacy. Every effort will be made to ensure complete understanding of the study requirements, potential risks and voluntary nature of participation. Written consent will be obtained from the potential participants prior to their involvement in any study related activity. Each participant will be assigned a unique identification number and will be identified solely by this number on transcripts of the sharing circles, to ensure individual anonymity.

This study has received ethical approval from the University of Manitoba Health Research Ethics Board (HS22910 (H2019:237)), the Victoria General Hospital and the Health Science Center.

Sharing circle and 'conversational' interviews could potentially elicit responses of anxiety, depression and post-traumatic stress. Professional mental health resources will be made available to all participants following each sharing circle and individual interview. Some research suggests that participation in sharing circles facilitates comfort and camaraderie among participants by supporting insightful discussions based on shared lived experiences.[26–28] A 40-dollar honorarium will be gifted to each participant for each sharing circle participated in. A 20-dollar honorarium will be provided for an individual interview.

The knowledge gained from the results of this study will be used to develop and implement culturally sensitive patient care programmes for Indigenous persons within the Manitoba CMBS programme. Findings will be disseminated through publication in open access peer-reviewed scientific journals, presentation at conferences, education sessions for healthcare professionals and included in a knowledge sharing session with study participants. The IAG will guide community dissemination of findings. Additionally, the findings are anticipated to be relevant to the general Canadian and Indigenous populations and as such, sharing the results in mainstream media publications will also be considered. Deidentified participant data and trends from this study will be available on reasonable request following data collection and analysis.

DISCUSSION

The purpose of outlining this project protocol prior to the study being completed is to highlight for readers our innovative and purposefully designed decolonising research with Indigenous participants to address the multifaceted aspects and experiences of bariatric surgery in a culturally appropriate way. We hope to inspire similar studies across Canada and elsewhere that can replicate or advance the findings which will encourage more dialogue about and further Indigenous and culturally sensitive research projects with bariatric care/surgery populations. Additionally, outlining the novel methodology of our approach facilitates publication of our study results, demonstrates the methodology has been carefully developed, described in detail and peer-reviewed, enhances the transparency of our research, prevents potential selective publication and reporting of research outcomes, and helps patients and the general public know what research is being planned.

This qualitative decolonising research approach using SSCs and individual 'conversational' interviews will contribute new knowledge to the limited body of scientific evidence that exists on bariatric surgery programme delivery—including access, barriers, experiences and outcomes of urban Indigenous peoples in Manitoba. This study is congruent with the TRC of Canada: Calls to Action #19.[22] Effective treatment strategies that are culturally sensitive, address access barriers and encourage positive, empowering interactions with healthcare providers are needed to impact future healthcare delivery and patient outcomes for Indigenous peoples.

The findings of this study will provide a conduit that promotes understanding of the collective historical and personal experiences, including culturally unsafe healthcare experiences of Indigenous patients as it is becoming increasingly apparent that the interactions Indigenous patients have with their healthcare providers and their ability to actively engage with their T2DM care plans are influenced by both.[31] Sharing circles and 'conversational' interview methodology have potential to generate vital knowledge and ideas from the Indigenous community that can be implemented by physicians and caregivers in the healthcare system to provide improved patient-centred care. A 'two-eyed seeing' framework also ensures Indigenous knowledge, perspectives and values are upheld and maintained throughout the duration of the research.

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Correction notice This article has been corrected since it was published. Author 'Kathleen Clouston' has been added in the author byline.

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REFERENCES

1 World Health Organization. Controlling the global obesity epidemic. Available: https://www.who.int/nutrition/topics/obesity/en/ [Accessed 14 Jun 2020].
2 Sharma AM, Lau DCW. Obesity and type 2 diabetes mellitus. *Can J Diabetes* 2013;37:63–4.
3 Katz A, Kinew KA, Star L, *et al*. Manitoba Centre for Health Policy. In: *The health status of and access to healthcare by registered first nation peoples in Manitoba*. 2nd edn. University of Manitoba, 2019.
4 Halseth R. *The prevalence of type 2 diabetes among first nations and considerations for prevention*. Prince George, BC: National Collaborating Centre for Aboriginal Health, 2019. https://www.nccih.ca/docs/health/RPT-Diabetes-First-Nations-Halseth-EN.pdf
5 Rice K, Te Hiwi B, Zwarenstein M, *et al*. Best practices for the prevention and management of diabetes and obesity-related chronic disease among Indigenous peoples in Canada: a review. *Can J Diabetes* 2016;40:216–25.
6 Turin TC, Saad N, Jun M, *et al*. Lifetime risk of diabetes among first nations and non-First nations people. *CMAJ* 2016;188:1147–53.
7 Lovrics O, Doumouras AG, Gmora S, *et al*. Metabolic outcomes after bariatric surgery for Indigenous patients in Ontario. *Surg Obes Relat Dis* 2019;15:1340–7.
8 Richmond CAM, Cook C. Creating conditions for Canadian Aboriginal health equity: the promise of healthy public policy. *Public Health Rev* 2016;37:2.
9 Sharples AJq, Mullan M, Hardy K, *et al*. Effect of Roux-en-Y gastric bypass on pharmacologic dependence in obese patients with type 2 diabetes. *Can J Surg* 2019;62:259–64.
10 Ding S-A, Simonson DC, Wewalka M, *et al*. Adjustable gastric band surgery or medical management in patients with type 2 diabetes: a randomized clinical trial. *J Clin Endocrinol Metab* 2015;100:2546–56.
11 Dixon JB, O'Brien PE, Playfair J, *et al*. Adjustable gastric banding and conventional therapy for type 2 diabetes: a randomized controlled trial. *JAMA* 2008;299:316–23.
12 Mingrone G, Panunzi S, De Gaetano A, *et al*. Bariatric surgery versus conventional medical therapy for type 2 diabetes. *N Engl J Med* 2012;366:1577–85.
13 Schauer PR, Bhatt DL, Kirwan JP, *et al*. Bariatric surgery versus intensive medical therapy for diabetes--3-year outcomes. *N Engl J Med* 2014;370:2002–13.
14 Gloy VL, Briel M, Bhatt DL, *et al*. Bariatric surgery versus non-surgical treatment for obesity: a systematic review and meta-analysis of randomised controlled trials. *BMJ* 2013;347:f5934.
15 Sanchis P, Frances C, Nicolau J, *et al*. Cardiovascular risk profile in Mediterranean patients submitted to bariatric surgery and intensive lifestyle intervention: impact of both interventions after 1 year of follow-up. *Obes Surg* 2015;25:97–108.
16 Panunzi S, Carlsson L, De Gaetano A, *et al*. Determinants of diabetes remission and glycemic control after bariatric surgery. *Diabetes Care* 2016;39:166–74.
17 Halperin F, Ding S-A, Simonson DC, *et al*. Roux-En-Y gastric bypass surgery or lifestyle with intensive medical management in patients with type 2 diabetes: feasibility and 1-year results of a randomized clinical trial. *JAMA Surg* 2014;149:716–26.
18 Ikramuddin S, Korner J, Lee W-J, *et al*. Roux-En-Y gastric bypass vs intensive medical management for the control of type 2 diabetes, hypertension, and hyperlipidemia: the diabetes surgery study randomized clinical trial. *JAMA* 2013;309:2240–9.
19 Courcoulas AP, Goodpaster BH, Eagleton JK, *et al*. Surgical vs medical treatments for type 2 diabetes mellitus: a randomized clinical trial. *JAMA Surg* 2014;149:707–15.
20 Courcoulas AP, Belle SH, Neiberg RH, *et al*. Three-Year outcomes of bariatric surgery vs lifestyle intervention for type 2 diabetes mellitus treatment: a randomized clinical trial. *JAMA Surg* 2015;150:931–40.
21 O'Brien PE, DeWitt DE, Laurie C, *et al*. The effect of weight loss on Indigenous Australians with diabetes: a study of feasibility, acceptability and effectiveness of laparoscopic adjustable gastric banding. *Obes Surg* 2016;26:45–53.
22 Truth and Reconciliation Commission of Canada. Truth and reconciliation Commission of Canada: calls to action, 2015. Available: http://www.trc.ca/websites/trcinstitution/File/2015/Findings/Calls_to_Action_English2.pdf [Accessed Jun 2020].
23 Allen L, Hatala AR, Ijaz S, *et al*. Indigenous-led partnerships in Canadian health care. *CMAJ* 2020;192:E208–16.
24 Kovach M. *Indigenous methodologies: characteristics, conversations, and contexts*. Toronto, ON: University of Toronto Press, 2009.
25 Kovach M. Conversation method in Indigenous research. *First Peoples Child Fam Rev* 2010;5:40–8.
26 Lavallée LF. Practical application of an Indigenous research framework and two qualitative Indigenous research methods: sharing circles and Anishnaabe symbol-based reflection. *Int J Qual Methods* 2009;8:21–40.
27 Whitty-Rogers J, Caine V, Cameron B. Aboriginal women's experiences with gestational diabetes mellitus: A participatory study with Mi'kmaq women in Canada. *Adv Nurs Sci* 2016;39:181–98.
28 Hart MA. *Seeking Mino-Pimatisiwin: an Aboriginal approach to helping*. Halifax, NS: Fernwood, 2002.
29 Jacklin K, Ly A, Calam B, *et al*. An innovative sequential focus group method for investigating diabetes care experiences with Indigenous peoples in Canada. *Int J Qual Methods* 2016:1–12.
30 Struthers R, Hodge FS, Geishirt-Cantrell B, *et al*. Participant experiences of talking circles on type 2 diabetes in two Northern plains American Indian tribes. *Qual Health Res* 2003;13:1094–115.
31 Jacklin KM, Henderson RI, Green ME, *et al*. Health care experiences of Indigenous people living with type 2 diabetes in Canada. *CMAJ* 2017;189:E106–12.
32 Batal M, Decelles S. A scoping review of obesity among Indigenous peoples in Canada. *J Obes* 2019;2019:9741090.
33 Statistics Canada. National Indigenous peoples Day… by the numbers. Available: https://www.statcan.gc.ca/eng/dai/smr08/2018/smr08_225_2018 [Accessed 17 Jun 2020].
34 University of Manitoba. Framework for research engagement with first nation, Metis, and Inuit peoples. Available: https://umanitoba.ca/faculties/health_sciences/medicine/media/UofM_Framework_Report_web.pdf [Accessed 26 Jun 2020].
35 Forbes A, Ritchie S, Walker J, *et al*. Applications of Two-Eyed seeing in primary research focused on Indigenous health: a scoping review. *Int J Qual Methods* 2020;19:160940692092911–8.
36 Martin DH. Two-eyed seeing: a framework for understanding Indigenous and non-Indigenous approaches to Indigenous health research. *Can J Nurs Res* 2012;44:20–42.
37 Chase R, Mignone J, Diffey L. Life story board: a tool in the prevention of domestic violence. *Pimatisiwin* 2010;8:145–54.
38 Charmaz K. The power of constructivist grounded theory for critical inquiry. *Qualitative Inquiry* 2017;23:34–45.
39 Ryan F, Coughlan M, Cronin P. Step-By-Step guide to critiquing research. Part 2: qualitative research. *Br J Nurs* 2007;16:738–44.