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Title	A research agenda to improve patients' experience of knee replacement surgery: a patient-oriented modified Delphi study of BC patients of South Asian origin
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Reviewer 1	Dr. James P. Waddell
Institution	St. Michael's Hospital, Orthopaedic Surgery, Toronto, Ont.
Comments and author response	<p>Thank you for asking me to review this submission.</p> <p>1. Twenty-seven patients/caregivers attended the focus groups. It is not clear to me how many of these were patients and how many were non-patients. I am also not sure that the non-patient experience is equivalent to the patient experience in terms of detailing issues regarding incidents of care. Furthermore, it is not clear to me that 27 individuals would provide a broad enough experience to extrapolate their comments and concerns to the entire South Asian population.</p> <p>Response: We have now specified the number of patients and caregivers separately (page 9). We chose to include caregivers in addition to patients, in part, because we expected the experiences to be different. The focus group is a qualitative exercise and so extrapolation to the entire population was not the intention and we do not make this claim in the paper.</p> <p>2. The top priorities of (1) promoting exercise following surgery and (2) self-management after hospital discharge are universal for knee replacement surgery. There are approximately 60,000-70,000 knee replacements done in Canada annually and I would say that these two goals are universal with that patient population. I do not see this as being unique to the South Asian population although the authors may have felt that for cultural reasons South Asian patients were less inclined to participate in self-care or less likely to do exercise or physiotherapy following their knee surgery.</p> <p>Response: We agree that these findings may be relevant to other sub-groups too. However, our research was focused on patients of South Asian origin and so our results apply specifically to that sub-group only. We cannot make comment on the generalizability of the findings to other patient groups.</p> <p>3. The interest in improved implant design is significant. It has been my experience that different cultural groups either because of religious practices or traditional activities of daily living anticipate much better knee flexion than they might achieve with conventional knee replacement. This might explain the much higher interest in the patient population and the caregiver population in improved knee implants (better range of motion than conventional knee implants) and the somewhat lesser interest by the clinicians. We have already lived through the era of the "high flex knee" and have found that when used clinically the range of motion is no better compared to the conventional knee in randomized trials.</p> <p>Response: We are encouraged by the reviewer's interest in this finding and hope other readers will be too.</p> <p>I feel this paper may be of interest to you as an example of the Delphi technique in addressing minority patient group concerns (the stated goal by the authors) but as a paper detailing issues around knee replacement surgery it contains nothing new.</p> <p>Response: We, respectfully, disagree, and have made the argument in the Interpretation section of our manuscript that this is the first study to provide a voice for Canadian TKA patients and caregivers of South Asian origin.</p> <p>Thank you for asking me to review the paper.</p>
Reviewer 2	Dr. Sanjay Beesoon
Institution	Alberta Health Services, Surgery Strategic Clinical Network, Edmonton, Alta.

<p>Comments and author response</p>	<p>I believe the Senior authors on this manuscript can invest more time to improve the flow of ideas. Tell the audience what is the knowledge gap and how the current research is filling that gap.</p> <p>Response: Thanks for this steer – we have sought to improve the flow, as directed by the editors and reviewers.</p> <p>Supported by statistics on dissatisfaction of patients following total knee arthroplasty, the authors set out to get input of patients and care providers on future research priorities in this field. This is an important avenue for Canadian researchers to pursue. The objectives are clearly defined, methodology is sound, discussion is pertinent and appropriate inferences have been made.</p> <p>Response: Thanks for these encouraging comments.</p> <p>I find the general writing up and the flow could have been better. Hence my comments on how to strengthen the paper.</p> <p>Title:</p> <ol style="list-style-type: none"> 1. This research is done in British Columbia, not across Canada – the title should reflect this 2. If all the patients are from Punjabi origin, I think it is appropriate to refer to the cohort as such 3. The title is a bit wordy – please consider a shorter title. <p>Response: The title has been revised in line with the comments.</p> <p>Introduction:</p> <ol style="list-style-type: none"> 4. IN the plain language summary, both TKA and TKR are used. Please use only one <p>Response: Done.</p> <ol style="list-style-type: none"> 5. IT would be nice to have more numbers on <ol style="list-style-type: none"> a. The scale of the problem (patients needing TKA) in Canada and in particular in BC. b. What is the cost (\$) to the health system? c. Higher dissatisfaction likely means more ER/Family Doc visits and more re-admissions or longer lengths of stay. Is there a way to get these figures? This is give more weight as to why this research is needed. <p>Response: We do indicate that TKA is one of the highest volume surgeries in Canada and that people of South Asian origin represent the largest visible minority in Canada. Given the tight limitations on words, we felt that this was sufficient to indicate the importance of the question.</p> <ol style="list-style-type: none"> d. As mentioned above, if your cohort is mainly first generation immigrants from Punjab, India, they should be referred as such instead of “South Asians” What the percentage of patients having TKA in BC are from South Asian Origin/Punjabi? <p>Response: We have retained the “South Asian” language as this is the language used in the study for all recruitment, focus group discussion and survey data collection. We do not know the percentage requested as ethnicity data is not available from routine health data sources.</p> <ol style="list-style-type: none"> e. What are potential benefits of the current research to the health system as well as to the patients <p>Response: This research did not propose to deliver direct benefits to the heath system – it has delivered a research agenda that will, if research is now undertaken, potentially lead to improvements in care delivery. We have sought to be clear on the study goals.</p> <ol style="list-style-type: none"> f. Is there any previous research documenting language barrier as a possible contributor to poor compliance to post-surgical care leading to poor outcomes? <p>Response: We have not reviewed literature on this specific topic as this was not a focus of our research.</p>
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6. Page 4 - Lines 6, 7 and 8 – Specific citations should right after each diagnosis – Also I do not think we need 12 citations for this sentence- pick the most important/relevant.

Response: We don't understand the first comment ("Specific citations should right after each diagnosis"). On the second point, we feel that all citations are directly relevant, indicating the scale of literature on the topic. We will be guided by the editors on this.

7. Page 5 - Line 13 – The study took place between.....month/year to ...month/year in British Columbia, Canada

Response: Details now included.

8. Page 6 –line 10 – Typo –“through”

9. Page 6 – line 14 - Punjabi

Response: Edit made

10. The more I read this manuscript, the stronger my impression that the cohort is main composed on Punjabi

Response: Not clear what point is being made here.

11. Page 6 line 20-21 – What is the value of the honorarium? CMAJ has an international audience – What is “small” for the investigators in BC, might be a big sum of money for a reader in another part of the world. If the amount of the honorarium has been approved by the Research Ethics Board/IRB, this should be mentioned here.

Response: We have given a general statement of REB approval. Word count restrictions prevent us including this on multiple occasions. We do not see the value of the honorarium as critical information and so have chosen not to make it explicit.

12. Was the aim of the research explicitly mentioned to the participant? That the intent of the research is to build a research agenda.

Response: Yes, of course, we were entirely open with all our research participants. This is a disappointing question. The research was fully reviewed by our local REB and we complied with all requirements.

13. It is not clear to me why health professionals were excluded from the focus group. Also, would it be relevant to document ethnicity of the health professionals?

Response: We have been clear in the paper that the primary purpose was to listen to the voices of patients in setting the agenda – this is a patient-oriented project. We do not have the ethnicity of the professionals.

Results

14. Focus groups – 70% Females 30% males – Is that a fair representation of gender distribution of TKA patients of South Asian origin. What is the age distribution of the Males?

Response: Focus groups are not a vehicle to achieve a representative group, and we do not claim that this was achieved.

15. A figure showing the characteristics of participants in the focus group and the Delphi survey rounds will be helpful for the reader.

Response: We have expanded the table describing the sample characteristics (now Table 1).

Interpretation

	<p>16. This sub-title should be replaced by “discussion” [Ed note: ‘Interpretation’ is consistent with CMAJ Open style. No need to change.]</p> <p>17. Overall, good discussion about the methodology and its weaknesses. The big missing element in the discussion is the key take-home message. Please summarize the major findings of your study and how do these findings address current knowledge gaps. What are the next steps in the research endeavor (for this team or other investigators) who wish to use the findings of this study for future research? How will findings of this research improve patient outcomes or improve health systems performance.</p> <p>Response: We have given a clearer and more direct take-home message.</p>
Reviewer 3	Mr. Kyle Kemp
Institution	University of Calgary Cumming School of Medicine, Community Health Sciences, Calgary, Alta.
Comments and author response	<p>Reviewer 3:</p> <p>Thank you for the opportunity to review this well-written paper which focuses upon improving the experience of South Asians who undergo knee replacement. I have a few comments as outlined below:</p> <p>The introduction is well-structured and presents a good case for conducting this research. It builds nicely upon previous research activities and provides a nice template for others in conducting similar work, under the principles which underlay SPOR.</p> <p>1. It may be helpful to readers to provide a statistic about the prevalence of end-stage knee OA among South Asians.</p> <p>Response: We agree that such a statistic would be helpful to include. However, given that ethnicity is not routinely collected in the health care system in BC/Canada, we do not have such data to report.</p> <p>2. In the description of study participants (methods section), can you please provide more information about the patients who participated? If possible, how long ago did they undergo surgery? Did they only have one surgery, or eventual bilateral replacement? Also, what other type(s) of therapy did they do prior to surgery (e.g. physiotherapy, medications, etc.). These types of information may help supplement Table 2, as well as some discussions around the results.</p> <p>Response: We agree that a fuller description of the sample would be helpful. All patients had their surgery within the last 2 years, as we now make clear in the text. However, we did not gather the information you have requested and so, unfortunately, we cannot expand on the sample description.</p> <p>3. With respect to survey completion (page 8), was any assistance provided to participants (e.g. phone number for questions/concerns, etc)?</p> <p>Response: As we indicate in the manuscript, all participants were called in advance of receiving the survey and then after receipt.</p> <p>4. Interpretation section: I agree that the lack of clinical knowledge on the part of patient participants was likely the key contributor to the lack of discrimination seen in that cohort. It is possible that many patients erred on the side of caution, to avoid inadvertently eliminate any items.</p> <p>Response: This may be the case but we do not have any reason to think that.</p> <p>5. The strong-patient oriented approach (as discussed on page 12) is quite novel and can serve as an exemplar for others. Key features of successful co-design is to build those relationships, and to outline any expectations at the outset.</p> <p>Response: We agree.</p>

	Thank you once again for the opportunity to review this paper.
Reviewer 4	Dr. Nicholas M. Desy
Institution	University of Calgary, Orthopaedic Surgery, Calgary, Alta.
Comments and author response	<p>Bryan et al. report on a Canadian research agenda to try to improve the experience of South Asian patients as it relates to total knee replacement surgery in Canada. For this they performed a patient-oriented modified Delphi study. It is helpful to determine important patient-centered research topics that are specific for a certain ethnic population which may differ from other ethnicities, particularly to improve total knee replacement outcomes and experience. This could hopefully help improve on the quoted 20% dissatisfaction rate after knee replacement surgery. They identified that "promoting exercises following surgery" is a top priority for both patients/caregivers and clinicians. Interestingly, "improving knee implants" was a high priority topic for patients/caregivers but of lower importance for clinicians.</p> <p>The authors have written the paper nicely and their methodology and results are easy to understand. The data in the tables are also well presented. This paper would certainly be applicable to a Canadian readership. It is also likely that this will translate into other research projects in the future that will build on this topic.</p> <p>Response: Thank you!</p> <p>Minor correction: 1. Page 7 of the manuscript, line 15 - the word patients is written as "patents".</p> <p>Response: Correction made.</p>
Reviewer 5	Dr. Paul Zalzal
Institution	McMaster University, Orthopedic Surgery, Oakville, Ont.
Comments and author response	<p>This is an interesting paper. I have some minor suggestions.</p> <p>1. Abstract, line 16 should read "were present" not "were presented"</p> <p>Response: We did intend to use the phrase "were presented". We are referring to the topics presented in the Delphi survey.</p> <p>2. Whenever referring to the n of 27 patients/caregivers it would be helpful to include the break down of number of patients vs caregivers. This would be helpful also when breaking down number of male vs female in these groups.</p> <p>Response: We have followed the advice and broken down the numbers of patients and caregivers. Given the relatively small numbers of caregivers, to additionally refer to this breakdown when splitting by male/female would be rather cumbersome in the paper and so we have not done this.</p> <p>3. As a surgeon I would appreciate a brief discussion regarding how one would put into practice the findings of this type of research. For example, would my pre operative and post operative protocol vary depending on ethnicity? For example, should I treat my South Asian patients differently than my African American patients?</p> <p>Response: We have strengthened the Interpretation to give a stronger and clearer interpretation with focus on the implications of the work. The immediate results are not intended for action in the clinic. The results of subsequent research might point to more patient-centred care, reflecting on ethnicity, as suggested by the referee. We have pointed to this in the Introduction: "Establishing a research agenda focused on a visible minority group allows for targeted research efforts to support evidence development to guide clinical practice improvement, especially in settings serving such minority communities."</p> <p>Overall an excellent paper. Thank you for the opportunity to review it.</p>
Reviewer 6	Cheryl L. Koehn
Institution	patient reviewer

<p>Comments and author response</p>	<p>General comments: Overall, this is a very interesting and highly relevant study (from a patient perspective) conducted in a specific ethnic population not yet examined and written about in the context of total knee replacement (TKA) and post-surgical satisfaction. Having just undergone a total knee replacement myself, I am 3 ½ months post-surgery and not one of my care givers has asked me in a standardized way about my satisfaction in the surgical result. I think this manuscript should be accepted with minor revisions noted below.</p> <p>Response: Thank you!</p> <p>Does the background accurately represent current knowledge in this field? Not entirely. Work of this type – thought not including patients in the design of the study – has been conducted in Japanese and Korean populations. Perhaps this could be noted in the background.</p> <p>Response: We are not aware of the work cited. If fuller details can be provided, we would be happy to include.</p> <p>Do the authors explain why they conducted the study? A clear rationale for the purpose of the study is provided. The authors refer to “patient partners” as part of the research team but don’t fully describe when and how they were involved in the formation of the research question, what their composition was, how many there were, etc.</p> <p>Response: Fuller details of the patient engagement activity is now given.</p> <p>Is there a clear research question? This paper clearly describes the research question: understand the experiences and satisfaction of South Asian TKA patients and identify a Canadian research agenda specific to this population of knee replacement patients.</p> <p>Response: No response</p> <p>Is the study design appropriate? I believe so. My experience as a patient partner and participant in research projects using the Delphi method were wholly satisfying and I felt productive as it offered me a way to feel meaningfully engaged and contributing my lived experience. I hope the patients involved in this study felt the same. Of note was the research team’s attempt at identifying potential research participant barriers and strategies to overcome them prior to recruitment.</p> <p>Response: No response</p> <p>Are the methods described in enough detail? Did you find anything confusing? I think a brief one or two sentences describing the Delphi method and why it is was the preferred method (“experts” reflect on their own and their fellow “experts’ input until it coalesces to a “true” answer for the group.</p> <p>Response: Fuller detail of the modified Delphi is now provided.</p> <p>You may wish to consider: participants, intervention, exposure, comparator, outcome, confounders, bias Are the results reasonable? Interesting? Surprising? Is the interpretation supported by data in the results? Do tables and figures accurately represent the data? Would some other visual be more helpful? 1. In my opinion, the one weakness in the paper is the graphic representation of the data. They are not reader friendly, particularly to a lay or public reader. This is particularly important for the Results section, but also the Methods section. I strongly recommend reformatting some of the tables into more visually interesting graphics.</p> <p>Response: We have reflected on this comment, and we have improved the presentation of Table 1, to now include the details split by patients and carers. The presentation of the results</p>
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graphically is challenging, given the large number of items and so we have decided against this route. We are open to suggestions from the editors.

Are any important limitations not mentioned?

No.

Did you spot any fatal flaws? That is, errors you do not believe the authors could overcome. Please explain clearly.

No.

For whom are these findings relevant?

This paper is relevant and important to myriad stakeholder groups: South Asian patients, care givers and providers, policy makers and health care delivery systems personnel.

Do the authors place their findings in the context of the literature?

They do; very nicely and thoroughly.

Response: Thank you!