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Communication study

Using Option Grids: steps toward shared decision-making for neonatal circumcision

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ABSTRACT

Objectives: To assess the impact, acceptability and feasibility of a short encounter tool designed to enhance the process of shared decision-making and parental engagement.
Methods: We analyzed video-recordings of clinical encounters, half undertaken before and half after a brief intervention that trained four clinicians how to use Option Grids, using an observer-based measure of shared decision-making. We also analyzed semi-structured interviews conducted with the clinicians four weeks after their exposure to the intervention.
Results: Observer OPTION[5] scores were higher at post-intervention, with a mean of 33.9 (SD = 23.5) compared to a mean of 16.1 (SD = 7.1) for pre-intervention, a significant difference of 17.8 (95% CI: 2.4, 33.2). Prior to using the intervention, clinicians used a consent document to frame circumcision as a default practice. Encounters with the Option Grid conferred agency to both parents and clinicians, and facilitated shared decision-making. Clinician reported recognizing the tool's positive effect on their communication process.
Conclusions: Tools such as Option Grids have the potential to make it easier for clinicians to achieve shared decision-making.
Practice Implications: Encounter tools have the potential to change practice. More research is needed to test their feasibility in routine practice.
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1. Introduction

It is widely recognized that parental preferences are vital to decision making about newborn male circumcision. Clinicians, therefore, must be able to convey information about the health benefits and risks in an unbiased and accurate manner [1]. However, evidence indicates that there is a need to improve how clinicians engage parents in conversations about newborn male circumcision [2,3]. For example, a study of 136 Australian parents found that 41% wanted more information prior to or at the time of childbirth to help them make a "better" decision about circumcision [4]. Similarly, 55 of 149 parents in the USA making a decision about circumcision did not receive adequate information [5]. Parents are also confronted by conflicting recommendations. For example, the American Academy of Pediatrics (AAP) says that the "preventative health benefits of elective circumcision of male newborns outweigh the risks" [1], while other guidance states the claimed benefits are "questionable, weak, and likely to have little public health relevance in a Western context" [6]. Given this context, there is a need for more research in how to facilitate a discussion with parents using the principles of shared decision-making (SDM).

SDM is a collaborative process where patients and their clinicians make decisions together using the best scientific evidence and integration of patient preferences [7,8]. Efforts to implement SDM, such as by introducing patient decision aids, have met resistance, especially in routine clinical workflows [9]. However, some evidence suggests that tools designed to be used within clinical encounters may be more successful [10,11]. One example of these encounter tools are Option Grids, one-page documents that describe the attributes of alternative treatment options by using a set questions frequently asked by patients [12]. These tools were developed to support the implementation of SDM in clinical settings in the United Kingdom [13], and are undergoing

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evaluation in different contexts (TOGA trial protocol) [14]. Previous research in newborn male circumcision has focused on how information provision influences circumcision rates [3,15–17], instead of on the decision-making processes. The primary aim of this study was to introduce clinicians to an Option Grid for newborn male circumcision and assess the impact of their use of the tool on the SDM process. Our secondary aim was to assess parent involvement in the decision-making process and whether clinicians perceived the tool to be acceptable and feasible.

2. Methods

To achieve triangulation, we assessed clinician-patient interactions applying a mixed-methods design and analysis. The Dartmouth College Committee for the Protection of Human Subjects provided ethical approval for the study.

2.1. Development of the Option Grid

The Circumcision Option Grid (see Supplementary Table) was developed by an editorial group composed of researchers, clinicians, and parents, following a published

procedure [18]. The editorial group compiled a list of the most common parental questions and concerns about circumcision and reviewed the current literature to provide answers.

2.2. Clinician training in the use of the Option Grid

Clinicians who agreed to participate in the study were introduced to the Option Grid by one of the investigators (MF). After viewing a short online video that demonstrated the use of the tool, each clinician participated in a simulation exercise using role play to consolidate their skills. The training emphasized that clinicians should "explain it, give it, use it"—introduce and describe the tool, give it to the parents, and use it to facilitate a discussion and elicit parental pReferences

2.3. The setting and participants

The study was implemented in the newborn care unit at Dartmouth Hitchcock Medical Center, New Hampshire, USA. Parents of male newborns who were over 18 years of age and spoke English and clinicians who discussed circumcision with parents were eligible to participate. Parents who were caring for babies with serious complications were ineligible. We obtained permission from consenting parents and clinicians to video-record, transcribe, and analyze their clinical encounter. We planned to examine four clinical encounters per clinician in both pre- and post-intervention phases, rendering a proposed sample of 32 sets of parents considering circumcision.

2.4. Data collection

2.4.1. Video-recordings and transcripts

Two authors (MF and SG), and a research assistant each transcribed one third of video-recorded encounters. MF and SG examined clinician communication strategies, the duration of encounters, clinician adherence to suggested use of the intervention, and the number of questions asked by parents.

2.4.2. Post-intervention semi-structured interviews

To explore clinicians' reactions to the use of these tools, each clinician was interviewed four weeks after their final post-intervention encounter, and asked three questions: "What are your thoughts on the Option Grid itself? Did you find the Grid helped or hindered your process, and in what way? What other additional thoughts do you have on using the Grid?" Detailed notes of the interviews were kept.

2.5. Analysis

2.5.1. Quantitative analysis

We used Observer OPTION[5] to assess SDM in the pre- and post-intervention encounters [8,19]. This five-item measure is based on the collaborative deliberation model of constructive engagement, comparative learning, preference construction and integration [13]. Assessments provide scores that are rescaled from 0 to 100 (maximum), where higher scores indicate increasing levels of SDM. Each video-recording was assessed independently by two raters (MF & SG), who subsequently compared agreement levels. Following this calibration step, the recordings were re-assessed independently before scores were collected for final analysis.

To assess changes in communication we recorded the difference in encounter duration and the number of questions asked by patients. We examined the overall mean difference in OPTION[5] scores in pre- and post-intervention encounters at both group and clinician levels. We evaluated whether the effect of the intervention was consistent across clinicians. We assessed the effect on the group mean of removing high or low individual scores. To account for the possible correlation of OPTION[5] scores at the clinician level, we used a generalized estimating equation approach with an exchangeable working correlation structure and robust standard errors [20].

2.5.2. Qualitative analysis

2.5.2.1. Video-recordings. We analyzed the transcripts using iterative interpretative cycles from thematic analysis [21,22]. An initial set of codes was developed, then after independent analysis by MF and SG, the codes were reviewed and modified. A third researcher (GE) coded a sample of transcripts, as a verification check for "other competing interpretations" [23]. A final reflexive analysis involved comparison and final interpretation (MF, SG, GE).

2.5.2.2. Post-intervention semi-structured interviews. Data from the post-intervention interviews with clinicians were also analyzed using a thematic analysis process.

3. Results

Three attending and two resident clinicians agreed to participate. One clinician left the study after conducting one pre-intervention encounter (we excluded this from the dataset). Prior to training in how to use Option Grids, the four participating

Table 1
Comparison of pre- and post-intervention encounters ($n = 32$).

	Pre-intervention (SD)	Post-intervention (SD)
Mean encounter duration (min:s)	8:58 (3.8)	8:27 (4.9)
Range of encounter duration (min:s)	4:23–16:11	2:16–17:10
Mean number of parent questions	3.2 (SD 2.6)	5.3 (SD 5.0)

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clinicians conducted four patient encounters each, and four encounters after training. This resulted in a dataset of 32 recorded clinical encounters. Parent couples were approached, based on the availability of participating clinicians over a three-month time frame. 40 potential parent couples approached in this time frame, 3 couples declined participation and 37 agreed. Five were not included because of scheduling conflicts. There were no significant differences in mean encounter duration or mean number of questions asked (Table 1).

3.1. Observer OPTION^5 Scores

Observer OPTION^5 scores were higher in the post-intervention group with a mean of 33.9 (SD = 23.5) compared to a mean of 16.1 (SD = 7.1) for pre-intervention, a significant difference of 17.8 (95% CI: 2.4, 33.2) (see Fig. 1). Although Observer OPTION^5 scores increased for each clinician, the increase was greatest for clinician 3, moving from 25 (SD = 2.7) to 65 points (SD = 10.7), a 40 point increase (95% CI: 13.1, 66.9). A statistically significant interaction effect ($p = 0.02$) revealed that the intervention had different levels of impact at the clinician level. Nevertheless, removing data from clinician 3 continued to reveal a significant improvement in group mean Observer OPTION^5 scores, from 13.1 (SD = 4.8) in the pre-intervention group to 23.5 (SD = 12.8) in the post-intervention, a 10.4 (95% CI: 3.0, 17.8) point increase.

3.2. Qualitative analysis of video-recordings

We identified four themes describing the impact of the intervention (see Table 2).

3.2.1. Use of a consent document to frame circumcision as a default in pre-intervention encounters

All clinicians in the pre-intervention phase used a consent document either explicitly with parents or implicitly as a reference for their discussion. The document was very familiar to them, listing specific risks and benefits, and citing the circumcision policy of the AAP.*Encounter 6*

Clinician 2: *Alright, so this is the consent form, have you had a chance to look it over?*

Father: *Yeah, I read through it.*

Clinician 2: *Perfect, so as I said yesterday circumcision is a family choice. We talked about the AAP, it does have recommendations* ...The consent document acted as a supporting device for information provision to parents. This process left few opportunities for parents to ask questions. Clinicians framed the encounters as seeking permission to proceed to circumcision:*Encounter 4*

Clinician 1: *Okay. Did you have a chance to look at this at all? (hands consent form to mother). I might not have shown it to you, so I'll just go over it with you then.*

Mother: *Okay.*

Clinician 1: *So, this just says that you're authorizing me . . . to perform a circumcision on your little guy.*We also observed attempts to introduce humor as a means to manage what seemed like embarrassment or discomfort when introducing the subject of circumcision. For example, this clinician is talking about how this parent's twin boys:*Encounter 9*

Clinician 3: *"... are less likely to pass on a sexually transmitted infection that you already have, so it's not going to be an issue for either of them 'cuz they're going to behave themselves . . . "*

3.2.2. Use of rehearsed scripts or "spiels" in pre-intervention encounters

One clinician admitted the use of many rehearsed phrases, referring to the phenomenon as giving the "the circumcision spiel" (clinician 3). Here, clinician 2 uses the consent document as a way to structure the discussion:*Encounter 8*

Mother: *And that's to have the circumcision or not to have the circumcision?*

Clinician 2: *Exactly, when kids are circumcised they have this decreased risk ... So this is the consent form ... I've outlined a number of the big risks ... So the first ones are bleeding and infection.*

We observed some clinicians delivering this information while standing, while parents were sitting on a low chair, or lying in bed, exhibiting the phenomenon of delivering a "spiel" that was already part of their routine way of talking. Clinician 2, for instance, always referred to the numeral next to the complication on the consent

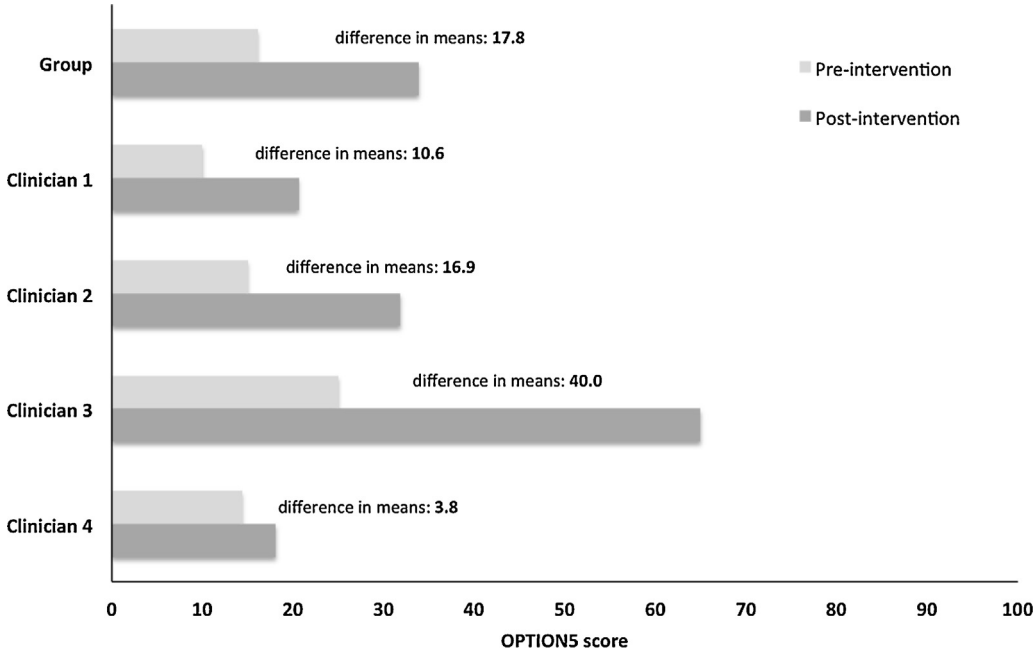

Fig. 1. Observer OPTION^5 Scores: Means and differences in means pre- and post-intervention by group and clinician.

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Table 2
Pre and post-intervention themes and sub-themes.

Pre-intervention–presumed consent process
1. Use of a consent document to frame circumcision as a default.
2. Use of rehearsed scripts or "spiels".
Post-intervention – observing behavior change
1. The intervention conferred agency to clinicians.
• Enabling collaboration
• Enabling preference clarification
• Enabling information provision
• A noticeable learning curve
2. The intervention conferred agency to parents.
• Enabled willingness to engage
• Enabled seeking clarification
• Enabled question asking

document when counseling parents. Parents, in response, were often silent or passive, and were given few opportunities to ask questions or comment on the information. As a result, they resorted to interruption as a means to ask questions or insert their views.

The use of Option Grid during the clinical encounter changed the way clinicians introduced the idea of circumcision to parents, it disrupted the usual "spiel", as well as providing parents with an opportunity to ask questions, raise concerns and become more engaged in the decision making process.

3.2.3. The Option Grid conferred agency to clinicians in post-intervention encounters

Enabling collaboration: The tool conferred agency to clinicians by facilitating different ways of communicating with parents, e.g. asking questions and seeking permission. For example, one clinician used the tool to initiate the conversation by saying, "... so can we explore this together?" (Clinician 3, Encounter 26). Another clinician began:*Encounter 31*

Clinician 4: *We have this Grid (moves the tool closer to mother and points to it). It's a tool to help us go through the reasons to do it,) and the risks and the complications ... and those kinds of things.*

By visually presenting alternatives, the Option Grid facilitated a more open-ended approach and curiosity about parental views: *Encounter 21*

Clinician 2: *So what thoughts have you had about circumcision? About the process, or anything to do with circumcision?*

Mother: *We actually didn't have much in the way of a thought process. It was pretty much Dad saying when are they getting circumcised?*

Clinician 2: *Have you two discussed it all before?*

Enabling preference clarification: Clinicians demonstrated that they could use the tools to support parents in constructing and expressing preferences after a process of information sharing. *Encounter 32*

Clinician 4 Okay, so we're using this [Option Grid] to try to help us explain the benefits and risks of having a circumcision ... We're trying to do a better job of explaining ... and help you guys make the decision... Was any of this new to you?Encounter 28

Clinician 3 I think you are aware that there are negatives and you have to weigh them against the positives ... it's really good to be thinking about that. It's also good to be thinking about what is important to you ... So it sounds like you are coming at it from slightly different angles as well. So what are your thoughts right now?

Enabling information provision: The risks of harm and benefits in the pre-intervention encounters used descriptive phrases such as 'rare', or 'unlikely'. In contrast, the data contained in the Option Grid provided the clinicians with more precise data:*Encounter 19*

Clinician 1: *Most boys don't get an infection if they are not circumcised, but you can see the chance goes from like 1 in a hundred who are circumcised to 2 in a hundred if not circumcised.*

A noticeable learning curve: As the clinicians gained experience using the tool, they became more confident about eliciting parents' responses to the information provided and to facilitating questions.*Encounter 22*

Clinician 2: *So you guys had a chance to look over the Grid related to circumcision. Were there any questions or were there any points you wanted to ... discuss further?*

However, it was noticeable that the clinicians' use of the tool did not conform to the steps suggested during the brief training. Only two of the clinicians consistently explained the *tabular layout* of the tool, and gave the tool to the parents. Two of the clinicians did not give the Grid to the parents. This suggested difficulty for some clinicians to modify their existing behaviors.

3.2.4. The Option Grids conferred agency to parents in post-intervention encounters

Enabled willingness to engage: Parents had no difficulty understanding the implied purpose of the tool was to facilitate consideration about whether circumcision was appropriate for their son. Although some parents had made up their minds by the time they were seen, others were willing to be engaged in a deliberation process.*Encounter 21*

Mother: *I feel uncomfortable, but that's a good thing. I'd like to take the Option Grid home and ask my husband, so he can be uncomfortable, too. I'm a little more nervous than I was. I would love to have the discussion with him [husband], so he feels informed ... We're not just like, let's do it.*

Enabled seeking clarification: We observed that the tool supported parents in clarifying issues that they felt were important.*Encounter 27*

Clinician 3: *Was there anything that concerned you guys, specifically looking at it again. (Clinician shows the Option Grid to parents).*

Mother: *Yes ... Our biggest concern would be for him... [What] would be the potential or short-term consequences of getting that [circumcision]. Complications-wise, this is extremely well-written ...*

Enabled question asking: Parents who were able to review the tool were able to use the 'frequently asked questions' as a basis for their own question. In the next example, both clinician and parents are focusing on the 'frequently asked question' about benefits (the Option Grid states there is a 1% lower risk of urinary tract infection):*Encounter 22*

Clinician 2: *[The benefits] are sort of listed on here (pointing to Option Grid). [There is] a decreased risk for urinary tract infection ... but they did not come out and say every boy must get a [circumcision] ... still leaving it up to families.*

Father Right.

Mother: *So is one percent a significant amount?*

The clinician elaborates but the mother is not satisfied, she wants to know whether a 1% decreased risk of urinary tract infection is significant or not, as if trying to decide the magnitude of this benefit. We did not witness this type of question-asking before the tools were introduced. As one mother said:*Encounter 27*

Clinician 3: *So my understanding is, you've had an opportunity to take a quick look at the Grid?*

Mother: *Yeah ...That was very good to look at and see larger concerns regarding the procedure itself.*

3.3. Post-intervention interviews with clinicians

In the follow-up interviews, clinicians explained that the Option Grid provided a meaningful learning experience, which motivated them to want to modify their communication patterns.

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The effort necessary to integrate the tools into routine practice led to reflection about their approach to communication with parents. In addition, they reported that the use of the tool had led to: (1) less didactic, more exploratory counseling process; (2) the realization that using the Option Grids could save time; and (3) the recognition of a learning curve, as described below.

3.3.1. Less didactic, more exploratory process

Clinicians consistently reported that the tool had changed the way they approached the encounter:

Clinician 4: *I now spend less time on my spiel and more time listening to the patient. I want to know the parents' thoughts and questions and hear what they think about how they came to their decision.*

There was consensus among the clinicians that using the Option Grid facilitated discussion. Three of the four clinicians acknowledged how this new behavior created, as Clinician 1 found, "a more balanced conversation":

Clinician 3: *The Grid was helpful because it reminded me [that it] was the discussion which was helping them to decide what things are important to them ... rather than my spiel about it.*

Clinician 3: *The Grid helped redirect the process ...it meant that it was no longer a spiel that I was giving, . . . I don't think that it was a bad thing ... it was good that I had to tailor my talk much more specifically to the concerns of the family.*

3.3.2. Using the tool could save time

Clinicians recognized that because the tool provides information in an accessible form to parents, it may make them more efficient:

Clinician 1: *Because it says a lot of what I say, I tried to limit what I normally say so I wasn't redundant. I could see how this could save time ...*

Although applying the tool within the encounter was difficult, there was extra benefit if the parents had been given the chance to read the tool ahead of the encounter:

Clinician 2: *I want them to review [the Grid] before we talk. If they are given it before we talk, it helps ...*

3.3.3. The recognition of a learning curve

Clinicians said that to use the tools skillfully required modification to their typical communication methods. We had instructed the clinicians to follow three suggested steps: "'explain it, give it, use it"'. These seemingly simple steps proved to be very difficult to accomplish. Three of four clinicians volunteered that it had taken at last three or four uses of the tool for them to understand how to integrate the tool into their communication efforts:

Clinician 4: *After the third use of the Grid, I realized I was not using the tool correctly. I think we need more than four uses to really understand how to use the Grid.*

Clinician 2: *I got used to the Grid, really, after four uses. Once I had it down, I think it would be really helpful.*

This illustrates a change from pre-intervention encounters where clinicians admitted to the parents an inability to accurately recall details about the risks associated with circumcision:

Encounter 3

Clinician 1: *They do have numbers on that. I'm not as good as remembering those.*

4. Discussion and conclusion

4.1. Discussion

When clinicians used an Option Grid during a clinical encounter, parents asked more questions and were more involved in discussions about newborn circumcision. The tool enabled clinicians to more effectively impart information, elicit patient preferences, and inquire about parental views. These positive changes were achieved without increasing the duration of the clinical encounters. In short, the tool conferred agency to both patients and providers, which led to significant increases in SDM.

In addition, clinicians reported that using the Option Grid had directly influenced their communication style to become less didactic and more collaborative. Analysis of the transcripts indicated that the tool disrupted the usual pattern of the discourse. Instead of introducing a consent document, where the presumed goal was to obtain assent to a procedure, the tool framed the discussion as one where parental preferences were the priority. We observed that rehearsed descriptions, or "spiels" as clinicians put it, were not so relevant and were replaced by other strategies, such as questions about the parent's views or preferences.

This study was limited by a small sample size, and thus the significant differences in mean Observer OPTION[5] scores between pre- and post-intervention groups should be interpreted with caution. We acknowledge that changes in Observer OPTION scores could be attributed to other factors, such as the use of video-recording and greater than usual peer interest in their communication efforts. We did not examine parental views about the use of the tool. Nevertheless, the use of the Option Grid, as is evident in the discourse examples given in this article, had a marked impact on communication, despite very modest instruction in how to use the tool.

This study is among the first to examine the effects of tool used within a clinical encounter in great detail. Previous research on the topic of neonatal circumcision have examined the range of relevant social, cultural and religious factors, depending on contexts [3,24–28]. Studies of interventions designed to influence circumcision rates have had variable effects, sometimes decreasing rates [15,17]. Other studies have had no impact on rates [3,16], yet it can be argued that the correct rate is the one determined by the view of informed parents, where decisions have been shared.

These findings are particularly important given the myriad challenges in implementing SDM [9] (e.g., time constraints, trustworthiness of information, and inflexible workflows [29]) and the unknown impact of pre-encounter tools on SDM [30]. Indeed, there has been growing interest in evaluating whether tools designed for use within clinical encounters foster greater collaboration between patients and clinicians [31]. A report on the use of these tools in five randomized trials [11], asserted that they led to more shared decision-making. At the same time, we need to recognize that while many parents favor SDM [32], the decision making process and how clinicians learn to use these types of tools needs more investigation [28,33]. Our findings suggest that using the Option Grid allowed clinicians to re-frame the discussion as one based on choice rather than consent. By offering agency to the patient, the clinician transitions from the role of salesman to one of collaborator [34].

4.2. Conclusion

The Option Grid for male newborn circumcision, a tool designed to support better conversations between patients and providers in clinical encounters, enhanced SDM. Notably, the parents asked more questions and became more involved in the discussions, and the clinicians supported more active collaboration.

4.3. Practice implications

Encounter tools have significant potential to improve SDM. Clinicians will require support and training to become familiar

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with the layout, content, and suggested use of encounter tools for maximum benefit.

Disclosure of interests

Glyn Elwyn leads the Option Grid Collaborative, where the Option Grid and the associated logo has a registered trademark and provides consultancy to Emmi Solutions, a producer of patient decision support tools. The other authors report no financial interests to disclose.

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Contributor's

Glyn Elwyn initiated and designed the study, contributed to data interpretation and drafting.

Mary Fay contributed to the design of the study, led the data collection, contributed to data interpretation and wrote the first draft. Mary had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Stuart Grande led the qualitative data analysis, contributed to data interpretation and drafting. Stuart had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Kyla Donnelly undertook the quantitative analysis and contributed to drafting the article.

All authors provided final approval of manuscript.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.pec.2015.08.025.

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