Reviewer's report

Title: Barriers and facilitators of pediatric shared decision making: a systematic review

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Reviewer: Sarah Birken

Reviewer's report:

Thank you for the opportunity to review "Barriers and facilitators of pediatric shared decision making: a systematic review." This study described in the manuscript reports the results of a systematic review of determinants of the implementation of shared decision-making in pediatric settings. The clinical topic, although outside my area of expertise, seems important, particularly in the context of concerns about the agency of children who must rely on parents and guardians for their decision-making, in addition to adults' reliance on providers for direction. Overall, the study seems to have been conducted rigorously; however, I have several concerns that, if addressed, would strengthen the paper.

MAJOR CONCERNS

Conceptual frameworks aren't as helpful as they could be:

The authors primarily rely on the Ottawa Model of Research Use (OMRU) to frame their study. I wasn't familiar with the OMRU before I read this study, but it seems to closely track other implementation determinant frameworks that I am familiar with (e.g., the CFIR and the TDF). But I do have several concerns about the authors' use of this framework:

1. The authors mention in passing the use of a taxonomy for SDM facilitators and barriers, but they never describe this taxonomy. Nor do they explain overlap between this taxonomy and the OMRU, if any. Do they complement each other? Why is the taxonomy needed beyond the OMRU?

2. The OMRU is never clearly described, so I had to learn about it as I read through the authors' application of the model, and I was left wondering whether I really understood it. In particular, I'm interested in the definitions of the domains and constructs within the OMRU and how they were applied to the data extracted in this review. Here's just one example: P6 line 8 Vague: the decision level includes influencing factors related to the decision itself (e.g., features of the options or high or low stake decisions)" the example isn't helpful. Generalizing to other interventions, decision//problem to which the intervention is being applied to address. So does this boil down to perceived need? It seems like this should map onto OMRU; it's not clear why
it's an emergent code. Similarly, P6 line 18: relational represents the interpersonal process between the HCP, patient, and family [16]: is there not an OMRA construct that relates to social interactions? This is surprising.

3. The application of the OMRA to organize the results section, in particular, seems to have actually complicated things rather than organized the results. I didn't understand which of the results were the authors' findings and which were OMRA constructs. More on this when I critique the results section below.

Methods are opaque in places:

There are several things that need to be laid out more explicitly. Here are some key points:

Most importantly, what were the search terms? That you ended up with 20k+ records and ended up with only 80 included studies suggests that your search wasn't specific. This should be addressed

The description of the qualitative analysis is a bit vague. Was there a codebook that you could include, with decision rules and examples?

It's not clear to me why you break determinants into barriers and facilitators. Surely there were some studies that just described 'determinants,' not pinning negative (barrier) or positive (facilitator) labels to them. How were these handled?

What is an observer? (p6 line 23. Definition on line 41 isn't all that helpful)

Inclusion criteria: P6 line 51 - with or without comparisons. - do you mean comparison groups - as in single as well as multi-group designs? What about peer reviewed as an inclusion criterion? This seems important.

Saying that discrepancies were "Resolved through consensus" (p8 line 18) is vague. What was done in the case of discrepancies? How were they resolved?

Analysis description - describe content analysis before describing the tallying of counting barriers and facilitators
Need more info about MMAT. What dimensions are included?

Last paragraph p9-beginning of p10 is curious. Do you mean to report on data sources from included studies? Consider reporting with respect to self-report (interview, survey, etc.), observational (with a trained observer collecting structured data or perhaps secondary data from an EHR or similar) - see other systematic reviews for how this is described

Missed opportunity for interesting analyses:

Given the agency issue related to children, the authors seem to have missed an opportunity to look at discrepancies in different stakeholders’ perspectives on determinants of SDM. I'd like to know if stakeholders reported determinants differently - are there systematic differences in the determinants that they report? This would be interesting and actionable.

Results section poorly organized:

The OMRU seems like it complicated rather than facilitated the reporting of results. I don't come away with a clear sense of what influences SDM implementation in pediatric settings. I'd like to see results presented instead perhaps in terms of frequency - which were the most frequently reported? And were there differences across stakeholders?

The synthesis of results section shouldn't be necessary - the results should be presented already synthesized; as currently written, there's not enough synthesis of what's in table 5; section 1.3.3 is extremely hard to follow, rendering it pretty unhelpful. What's currently in the synthesis of results section isn't helpful without prose walking us through it.

I'm not sure how table 5 represents a taxonomy. Shouldn't that be the OMRU?

Discussion is disorganized:

Discussion section is too long, perhaps stemming from the confusing results section. In particular, the use of OMRU actually even complicates discussion section, making it too abstract. The discussion section should be organized as follows: summary of answers to study questions, comparison to relevant extant literature, limitations, recommendations for research practice policy, and conclusions.
Several statements throughout discussion seem to reach beyond the results - e.g., "Children can be included and empowered by eliciting and incorporating their preferences and views in the decision making process." What finding is this based on?

MINOR CONCERNS

Abstract:

Add more about the importance of SDM in peds like what you provide in last para on p4

Some parts are difficult to understand. What does the following mean? "We considered all or no comparisons." Do you mean that you included studies with all types of designs?

Do you mean to refer to inclusion criteria with the following? "Included studies reported barriers and/or facilitators about SDM in a pediatric clinical context from the perspective of HCPs, parents, children, or observers."

Who reviewed for inclusion?

Explain what the Ottawa Model of Research Use is and how it relevant to your study - it's an implementation determinants framework.

Results in general are confusing. In particular, that they're organized by OMRIU is really confusing. Without the constructs in parentheses, reading this would probably more straightforward.

Conclusions - what about for research? Policy?

Introduction:

Add the rationale to objective statement at end, other than we lack knowledge - what can we do with potential findings?

Methods:

P5 line 34 redundant "We conducted a SYSTEMATIC REVIEW, guided by the Cochrane Handbook for Systematic Reviews [12], to SYSTEMATICALLY REVIEW"
I was surprised to see that environment includes legislation, policy and uncontrolled events. Aren't these things that contribute to the environment, not the environment itself?

I recommend referring to qual analysis of barriers and facilitators as template analysis since they used both deductive and inductive

P9 line 19: 'It's' should be 'its'

Results:

P9 line 30 After removing duplicates and screening citations, we examined 461 full texts. What does it mean to screen citations? Do you mean titles? That seems like a low hit rate, so it makes me think that there was a problem with the search. Hard to tell because no search terms.

P9 line 31 "Of those, 80 publications, representing 79 distinct studies, were eligible for inclusion." Based on which review? Abstract? Full text?

P9 line 56: Barriers and facilitators were reported from the perspective of: HCPs (n=20), parents (n=18), children (n=8), multiple participant types (n=26), and observers (n=7). - this seems strange. Ns sum to 79, leaving 1 study missing and suggesting that no studies reported determinants from the perspective of more than one stakeholder. This seems unlikely.

Table 2 - disaggregate method and data source; add study design (experiment, quasi-experiment, observational); separate N and stakeholders (again, hard to believe each study only collected data from one stakeholder type)

Tables 4 and 5 are difficult to understand and largely redundant. Text says that data are organized by OMRU domain, but I don't see any categories in the table. Why not just combine Tables 4 and 5? Table 5 has more information in it.

I don't understand figure 3 at all. Either explain more in the text or eliminate. I don't see what it adds.

The last sentence of the results section belongs in discussion section.
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