**SHLA Journal Club – May 29, 2019**

Eriksen, M.B., & Frandsen, T.F. (2018) The impact of patient, intervention, comparison, outcome (PICO) as a search strategy tool on literature search quality: a systematic review. *Journal of the Medical Library Association*, 106(4), 420-431. doi: <http://dx.doi.org/10.5195/jmla.2018.345>

**Discussion Questions**

1. **What has been your experience with PICO? Do you find it improves the quality of your searches? Is it effective for teaching others how to search?**
* It can be helpful in breaking up therapy-related questions into the different concepts or search blocks. Useful tool when teaching someone how to search but only if they have a therapy-type question that actually fits into the model. Often use PIC more often though depending on whether or not the use of outcome-related terms would be too limiting or not.
* Teach PICO to nurses with Medline and CINAHL. Mixed usefulness. Only certain types of questions fit the model. Really it’s just to help break down things into searchable concepts. Talk about SPIDER, PICT (time element…ex stages of gestation and postpartum).
* Stopped teaching it. Just teaching a general search strategy. Nurse practitioners get bogged down trying to force the question into PICO.
* Helping with students to identify what their question will be. Sometimes they don’t have their question clearly defined.
* For teaching purposes it can shed light on what might have been a good research question. Is this therapy/thing effective or not?
1. **Have you used other models before like SPIDER or SPICE? What has been your experience with those? What about unguided searching?**.
* SPIDER when doing a synthesis review. Mixed results. Some of the elements are really specific and you don’t necessarily need all of them.
* Undergrads struggle as it is so it’s too much for them.
* Good for a scoping review. The average student research question could come up with using this model.
* Tricky to incorporate so many different elements. Sometimes might leave out Evaluation. But research type and sample size are very important so might focus on those.
* Both seem to have same problem as PICO where they only work for specific research types. SPICE good for social sciences. SPIDER good for scoping review.
* Use unguided searching for lots of questions coming in. Lack of formal approach might be less concise, but more agility in using new ideas and concepts.
* Unguided searching more appropriate for hospital library searches probably. But something like a synthesis review has things really set out before searching…looking for search quality and methodology so PICO or SPIDER is good to help get started. Might not use all the parts of them. Definitely have a layout of the search before doing it.
* Unguided searching is almost like the last step just to make sure everything has been covered.
1. **None of the 3 studies that were assessed investigated the time spent on literature searches. Do you think using a model like PICO would have any impact on time compared to unguided searching?**
* It provides some structure. When doing unguided searching, sometimes end up trying multiple combinations of search blocks and going back and making edits. It can be quite time consuming but can get better results sometimes.
* Using structure of PICO as just a checklist. Include all the terms you want for your population and you can check them off etc.
* 3 studies for a systematic review in this article seems like a wild concept…very interesting.
* The search in this study was quite systematic. With the topic you kind of wonder why bother? Concern about the title…maybe more of a scoping review than systematic.
1. **Two prominent issues that were mentioned are the number of search blocks and avoiding outcome-related terms in the search strategy. Is this something you focus on when searching? When do you include or exclude outcome-related terms?**
* Average more than two and less than six search blocks.
* Include outcome terms either if need to get final number of results down (i.e. too much) or if there are very specific outcomes the requestor has identified. If not, then exclude in order to account for any type of potential outcome.
* Usually include outcome-related terms if it’s part of the question that was asked. Especially in PICO questions. Also, will use outcomes with proximities if it relates to the question. If they don’t care about the outcome or just want to know if it’s safe to use then will exclude it.
* Getting students around the idea of not including qualifying terms like “approve”, “increase”,…they want to look specifically for the “increase” and they don’t consider maybe a negative outcome.
* Including terms can lead to bias as well.
1. **What are your thoughts on the criteria the authors developed for assessing the risk of bias in the studies they evaluated?**
* Searcher skills is interesting…how do you measure that? We have some difficulty with this one.
* What was preventing them from testing it? An unvalidated tool seems biased.
* See they used PRESS for the quality of searches.
* Not sure is strongest but don’t know if there is anything else.
1. **What are the authors’ conclusions? Does this study make you think any differently about the use of PICO (or any model) in your work?**
* Already felt PICO was useful for very specific situations.
* They found that few studies assess the effect of PICO versus other models or unguided searching on the quality of lit searches. Only 3 studies were deemed relevant to include in the study and they were all so different which doesn’t help much since no conclusions can really be made.
* No solid conclusions could be drawn. They probably didn’t have to do a systematic review to find this out.
* Could they be using this as a jumping step for more research? Will they look to design their own study? This is why it should be called a mapping or scoping review!!
* Would have been helpful to identify the gaps or primary research that needs to be done.
* Validating a tool in the next study would be good. Could it not be validated because low number of studies?
* No additional included studies from other sources like Grey Lit. There could be other sources out there. A Medline search would have been good.
* Lots of library research is observational and we’re often biased and very small samples.
* PICO was taught in a science-related library class in library school.
* Taught in psych courses at school for gathering lit reviews.
* EBM instruction that students get now is based on PICO but there are also harm, diagnosis, etc but PICO is only good really for therapy. It might be helpful for us to start approaching it a different way. Maybe identifying what kind of question you have first is better than doing PICO first. This would be helpful for the clinical staff.
* Students don’t think about types of questions and less about how types of models can help them. Tricky to get them thinking about this when they already struggle with so many basic things. We need to spend more time formulating the question rather than just jumping into the searching.
* “Searcher skills”…need to clearly define what that is and who it is? Information specialists?
* How would you even design an effective study?
1. **Was there something missing from this study that you were expecting or hoping to read?**
* Something about the amount of time to complete a search.
* In Manitoba had a 1.5 hour limit and if didn’t finish the question then the requestor would come in to try and sort it out in person to get an idea of how to continue the search. Tough to get people to come in though. Clinical staff could be hard to get a hold of. Plus people might not work in your hospital.
* Was a good idea to look at this because we do just naturally accept PICO as the only option. Would be nice to see other articles that discuss PICO.
* Other models that other disciplines use? Maybe could be adapted to health? Maybe education or social sciences have models that we could borrow pieces from? There is often overlap between disciplines. Because the systematic review is making its way into other disciplines. More qualitative research coming into medicine too.
* ECLIPSE…could possibly be adapted for some health questions.

**Do you think we even need to use a model at all?**

* More as an example of getting your brain working than actually using as a model. Good to show a table and how using OR and AND can help them visualize.
* Some assignments force PICO on students even though it doesn’t fit. 2nd year research class for nurses have to actually use the PICO element and do their own search.
* There is misunderstanding even in higher levels about how to use PICO.
* Lots of help documents from libraries for using PICO as an example.
* Instead of “answerable question”…would it be better to use the term “researchable question”?