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Reflecting on a meta-synthesis of qualitative papers concerned with pregnant women's decision-making about prenatal screening for Down syndrome: A commentary on Reid, Sinclair, Barr, Dobbs and Crealey

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I read the article "A meta-synthesis of pregnant women's decision-making processes with regard to antenatal screening for Down syndrome" by Reid, Sinclair, Barr, Dobbs, and Crealey (2009) with great interest for three reasons. Firstly, it promised to draw together qualitative research concerned with pregnant women's decisions about prenatal screening for chromosomal anomalies such as Down syndrome. Secondly, the paper offered a practical test of the more general utility of meta-synthesis with qualitative data. Thirdly, at a time when academic virtue is, apparently, indicated by citation 'metrics', I was flattered to note that the paper which I had first-authored (Heyman et al., 2006) featured among nine winnowed from a starting field of over 12,000. A second paper (Williams et al., 2005) authored by the same team and utilising the same data-set was also included among the chosen nine. The remarks which follow will, firstly, discuss some general issues, and, secondly, comment on the portrayal of the paper which I first authored.[1]

The meta-synthesis presented by Reid et al. appears to have been undertaken meticulously, and written up carefully and critically. I will commend the paper to students wishing to introduce themselves to this way of handling qualitative data. As the authors note, they attempted a difficult task, involving three orders of analysis (Reid et al., 2009). Pregnant women, like all service users, actively interpret information they are given. Qualitative researchers interpret these first order interpretations when they select and comment on their research data, itself produced in particular social contexts. Meta-synthesis generate third-order interpretations. Commentaries such as the present one interpret this output at a fourth level! The remarks which follow will mostly touch on difficulties and reservations. However, the notes of caution struck should not detract from the promise of this form of building on qualitative findings. It offers a potential means of making qualitative findings cumulative, whilst at the same time raising problematic issues, as the authors themselves note. I outline some issues below before commenting on the treatment of my own paper.

General comments

The general comments on meta-synthesis offered below cover the following four issues: realism *versus* constructivism; the meta-synthesis question; data quality; and multiple social contexts.

Realism versus constructivism

I can't see how meta-synthesis of qualitative studies can be *"firmly rooted in the tenets of a constructivist orientation to epistemology"* (Reid et al., 2009). The act of locating diverse studies within a common framework implies that an underlying reality exists to be discovered and distilled from them. If the enterprise of meta-synthesis is to be justified, it must be assumed: firstly, that

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the primary researchers' interpretations reproduce social actors' interpretations with some validity; and, secondly, that the meta-synthetic act of putting together these second order interpretations will allow some shared truth to be distilled from them. Drawing out the implicitly realist assumptions of methodologies such as grounded theory allows the problems associated with the claim to have discovered 'reality' to be articulated (Hall & Callery, 2001).

The meta-question

The meta-synthesis was designed to answer the question, '*What factors influence pregnant women's decisions to accept or decline maternal serum and/or nuchal translucency screening for Down syndrome?*' (Reid et al., 2009). Any synthesis of multiple studies must be organised around a common issue, without which research could not be selected or analysis coherently framed. However, the meta-question might not correspond to the problematics which motivated individual studies, particularly when a theoretical sampling approach is adopted. This style of research seeks to keep the research question open, so that it 'emerges' from the data via cycles of design, data collection and analysis. Heyman et al. (2006), for instance, focussed on the meaning of higher risk status. Pregnant women's thinking about this issue is likely to influence their decision to accept or decline screening. But the analysis was not primarily concerned with decision-making.

Assuming that the other articles included in the meta-synthesis did not necessarily address its organising question directly, it follows that data selected and interpreted for one purpose must be used for another. The integrity of meta-synthesis can only be sustained if such adaptions can be soundly undertaken. Qualitative data does lend itself to this type of re-orientation. But, its limitations need to be acknowledged. In particular, the meta-question is unlikely to map neatly onto the direction of theoretical sampling in the studies which it draws from.

Data quality

The meta-synthesisers needs to select 'good' papers in order to avoid the 'garbage in-garbage out' trap. In this case, the authors relied on a formal framework which assessed features such as sampling strategy, data collection methods, analysis, interpretation and reflexivity, with papers given a summary grade (A-D). Admirably, an audit trail is provided, along with the summary grades. (The paper which I first-authored scored a 'B'!). Without being flippant about important issues such as sampling, I have serious doubts as to whether this formal approach captures the worthiness of qualitative research, an issue which the authors acknowledge. Since the aim is usually to discover what exists rather than how much, sampling, however unsystematic, will have worked if it generated data which yielded interesting insights. Conversely, a study which did not produce any findings worthy of note might score highly on all the formal measures. (Similarly, skilled use of qualitative software can be, and very often is, combined with meaningless findings.) The importance of grading analysis and interpretation cannot be so easily dismissed, but applying grades begs the question of how their quality is to be assessed. I suspect that the only way to judge overall study quality is to rely on holistic peer review which itself has obvious weaknesses.

Multiple social contexts

The meta-synthesis authors state that their approach generates 'thick description'. But they rightly note a tension between combining studies and retaining a sense of their social context. The specifics of screening systems vary from place to place, even within a single country such as the UK, and have changed substantially over the two decades since they were introduced as the technology developed. Furthermore, screening sites differ considerably in their organisational ethos. The study on which Heyman et al. (2006) was based uncovered substantial differences in the take-up of screening at two comparison research sites using 'standard' and 'innovative' screening technologies. Women attending the innovative site were more likely both to regard prenatal chromosomal screening as routine rather than optional, and to decide to be screened, than those cared for at the standard site. In theory, such contextual differences can be included in the meta-synthesis, or may be invoked to explain variations in findings. In practice, they are likely to be backgrounded as the synthesisers look for common patterns. The meta-synthesis under review tended to pick out similarities rather than differences although the authors, to their credit, attempted to do both. This issue will be illustrated in the second part of the commentary.

The interpretation of Heyman et al. (2006)

The meta-synthesis authors offer the following summary of the study findings:

> Women declined screening because they wished to avoid anxiety and rejected abortion. Women who screened at higher risk questioned the system-specific probability used to separate them from the lower risk population. Some women experienced distress despite appreciating the precautionary basis of higher risk status. Disengagement from higher risk status was difficult even after diagnostic testing had ruled out chromosomal anomalies. (Reid et al., 2009)

The summary draws together interpretations which were combined with others in the sections of the meta-synthesis. I find this summary only partly accurate. In fairness, any misunderstandings may well result from lack of clarity in the article referred to as much as the difficulty inherent in summarising complex analysis.

Our article (Heyman et al., 2006) did not assert that women necessarily declined screening '*because they wished to avoid anxiety* ***and*** *rejected abortion*' (Reid et al., 2009, my emphasis). Some expressed one OR the other concern. Moreover, the summary does not encompass another important alternative, that of positively framing Down syndrome. One woman considered any baby as a 'gift from God'. She thereby rejected the presupposition built into risk screening that giving birth to a child with Down syndrome is an adverse event. *Some* women rejected the higher/lower risk binary distinction, but others did not. One woman had concealed her pregnancy after screening reduced her pre-screening, age-based probability of giving birth to a baby with chromosomal anomalies from about 1:100 to 1:249. She took up the offer of diagnostic testing which was made because she just missed the cut-off for lower/higher risk of 1:250. I agree with the statement about *some* women experiencing distress when they were assigned higher risk status. But alternatives outlined in the paper were not mentioned. For example, one screened woman had dismissed a risk of about 1% as low, and declined to proceed to diagnostic testing. I suspect that this attitude is relatively unusual, but it has considerable significance for qualitative analysis of interpretive frameworks about risk. Similarly, our paper documents differences in ease of exit from higher risk status after a diagnostic test has demonstrated the absence of chromosomal anomalies. The findings suggested that whereas some women who screen at higher risk find it hard to believe that the health problem screened for never existed, others readily shed their higher risk status.

This review of meta-synthesis in relation to one paper documents two problems. Firstly, the requirements of meta-synthesis may lead analysts to preference generality over difference, although Reid et al. (2009) clearly acknowledge both. Secondly, meta-synthesists are inevitably influenced by their own presuppositions. In this case, I would infer, perhaps incorrectly, that the authors lent towards the following views: that women do not wish to rear a child with Down syndrome; and that they find the screening/testing system stressful. Both of these propositions frequently hold true, at least in secular societies. But an important strength of qualitative methodology rests in its power to draw attention to instructive exceptions.

Conclusion

The qualitative meta-synthesis by Reid et al. (2009) provides a high level, well-executed demonstration of its potential. This approach offers an approach to building cumulative bodies of qualitative research, thereby addressing one of the main weaknesses of qualitative methodologies. The commentary has highlighted a range of general and specific difficulties which meta-synthesis needs to confront. The nature of the meta-synthetic task may encourage: over-reliance on formal methods for judging data quality; a focus on generality rather than difference; and a propensity to discount data which do not correspond to the synthesisers' taken-for-granted presuppositions. These problems are not necessarily insurmountable.

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