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Midwives' clinical reasoning during second stage labour: Report on an interpretive study

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ABSTRACT

Background: clinical reasoning was once thought to be the exclusive domain of medicine – setting it apart from 'non-scientific' occupations like midwifery. Poor assessment, clinical reasoning and decision-making skills are well known contributors to adverse outcomes in maternity care. Midwifery decision-making models share a common deficit: they are insufficiently detailed to guide reasoning processes for midwives in practice. For these reasons we wanted to explore if midwives actively engaged in clinical reasoning processes within their clinical practice and if so to what extent. The study was conducted using post structural, feminist methodology.
Question: to what extent do midwives engage in clinical reasoning processes when making decisions in the second stage labour?
Methods: twenty-six practising midwives were interviewed. Feminist interpretive analysis was conducted by two researchers guided by the steps of a model of clinical reasoning process. Six narratives were excluded from analysis because they did not sufficiently address the research question. The midwives narratives were prepared via data reduction. A theoretically informed analysis and interpretation was conducted.
Findings: using a feminist, interpretive approach we created a model of midwifery clinical reasoning grounded in the literature and consistent with the data. Thirteen of the 20 participant narratives demonstrate analytical clinical reasoning abilities but only nine completed the process and implemented the decision. Seven midwives used non-analytical decision-making without adequately checking against assessment data.
Conclusion: over half of the participants demonstrated the ability to use clinical reasoning skills. Less than half of the midwives demonstrated clinical reasoning as their way of making decisions. The new model of Midwifery Clinical Reasoning includes 'intuition' as a valued way of knowing. Using intuition, however, should not replace clinical reasoning which promotes through decision-making that can be made transparent and be consensually validated.

This paper reports on a qualitative study about practising midwives and the processes they use to make decisions during the second stage of labour. Key terms are presented in Table 1.

Problem

Poor clinical reasoning and decision-making are well known contributors to adverse outcomes in maternity care (Centre for Maternal and Child Enquiries, 2011). In Australia, the setting for this study, medical dominance of the maternity services may be an important factor in undermining midwives' use of clinical reasoning (Tracy et al., 2014). Midwifery decision-making models share a common deficit: they are insufficiently detailed to guide reasoning processes for midwives in practice (Jefford et al., 2011). In the midwifery regulatory literature there is no discussion, let alone agreement, that clinical reasoning is important in midwifery: this may be attributed to midwives embracing emotional and intuitive ways of knowing whilst potentially undervaluing one important way of knowing; i.e. analytic reasoning.

Background

Daniel Kahenman (Kahneman, 2011) won a Nobel Prize for his work on how humans make decisions. Essentially there are two ways: Analytical (slow thinking) and Non-Analytical (fast thinking).

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Table 1
Key terms.

Analytical thinking (system 2)	'…allocates attention to the effortful mental activities that demands it…. the conscious reasoning self that has beliefs, makes choices and decides what to think about and what to do…' (Kahneman, 2011, p. 21).
Clinical reasoning	Clinical reasoning is part of the broader philosophical field of Hypothetico-Deductive Theory, which forms the foundations of empirical science (Colman, 2006a). The clinical reasoning process assumes a knowledge base where the clinician is aware of the potential diagnoses, their signs and symptoms.
Decision-making	Act or process of choosing a preferred option or course of action from a set of alternatives. It precedes and underpins almost all deliberate or voluntary behaviour (2002).
Emic	An entirely emic perspective in research means that the perspective of the research participants are presented as 'truth' or 'true for them'. The researchers own perspective is not visible in the research report e.g. phenomenology (Darvill, 2008).
Etic	An etic perspective in research means that the researcher interprets or re-frames that data from their own perspective, e.g. Margaret Mead. Post structural researchers often present both the emic and etic perspective in their research report (Darvill, 2008).
Feminism	Feminism is the theory, research and practice of 'identifying, understanding and changing the intrapersonal and social factors that sustain women's disempowerment' (Fahy and Harrison, 2005).
Hypothetico-Deductive Theory	'The standard research method of empirical science in, which hypotheses are formulated and tested by deducing predictions from them and then testing the predictions through controlled experiments, hypotheses that are falsified being rejected and replaced by new ones' (Colman, 2006a).
Intuition	An understanding without rationale (Thompson and Dowding, 2002). '…Judgement is a product of interaction between an individual and environment and cannot be understood by studying either in isolation {Standing, 2010 #1253@229}.
Post-structural	Post structuralism has been considered in two main ways: one concerns the subject and power, for example, in the work of Michael Foucault. The other main way is post structuralism as exemplified in the work of Jacques Derrida, which is a direct criticism of structuralism. Linguistic poststructuralists have shown that the meanings (truths) cannot be fixed. This is because of the supposedly foundational terms upon which the meanings depend are equally contingent and unstable (Calhoun, 2002). In the view of poststructuralists 'truth' is, therefore, contingent so that what comes to be accepted as 'truth' is a product of relations of power (Foucault, 1980a).
Pseudoscience	is a practice or a knowledge claim that cannot be tested or falsified. Pseudoscience distinguished from science by the use of vague, exaggerated and untestable claims (Pigliucci and Maarteen, 2013).
Non-analytical thinking (system 1)	'…operates automatically and quickly with little or no effort and no sense of voluntary control…' (Kahneman, 2011, p. 20).

By far the most common way of making a decision is non-analytical, which is based on pattern matching (Eva, 2005; Kahneman, 2011). People engage in pattern matching whenever they encounter a situation that requires a decision where the situation is similar to one they have previously encountered, e.g. the spontaneous decision that this woman's severe breathlessness is caused by acute asthma is pattern-matching. To make a decision more slowly (analytically) may lead to a better decision i.e. even though asthma is a very common cause of breathlessness, this particular woman has no recent history of asthma, the onset of breathlessness was sudden, no wheezing is evident; therefore this may be a pulmonary embolism or it may be an amniotic embolus – consequently further assessment is required before making a decision and taking action.

Clinical reasoning is the term used when clinicians use analytical ways to make decisions. Clinical reasoning is part of the broader philosophical field of Hypothetico-Deductive Theory, which forms the foundations of empirical science (Lawson, 2000; Colman, 2006a). Clinical reasoning was once thought to be the exclusive domain of medicine – setting it apart from 'non-scientific' occupations like midwifery (Foucault, 1972, 1980a; Willis, 1989; Cohen, 1995; Turner, 1996). The learning of clinical reasoning is deeply embedded in medical education where it is often enshrined in Problem Based Learning (Neville, 2009). Feminists highlight the idea that socio-political factors such as medicines' appropriation (Willis, 1983) of analytical reasoning as their exclusive domain has been disempowering for midwives.

The Nursing and Midwifery Board of Australia (NMBA) now requires that all midwives meet competency standards related to decision-making (Nursing and Midwifery Board of Australia, 2006). These competency standards refer to midwives providing advice, which is to facilitate decision-making by the woman, and/or involving the woman in decision-making (Nursing and Midwifery Board of Australia, 2006). 'Decision-making', however, has not been explicitly defined and the word 'reasoning' is absent from all NMBA midwifery regulatory documents. This absence can be expected to be reflected in an absence in Midwifery curricula. Our critique of midwifery models of decision-making has been reported previously (Jefford et al., 2011). A hallmark of clinical reasoning is that the thinking process can be made transparent therefore can be consensually validated or falsified which is a characteristic of profession based in science. Midwifery, being both a science and an art, needs to be able to justify certain types of clinical decision-making processes that are sufficiently robust to distinguish midwifery from a pseudoscience.

Research question

'To what extent do midwives engage in a clinical reasoning process during second stage labour?'

Due to the lack of explicit clinical reasoning within the NMBA documents we felt it was important to explore if midwives used analytical clinical reasoning processes in clinical practice and; if so, to what extent. We chose second stage labour as the focus for this study because there are some decisions that cannot be negotiated with the woman in the second stage of labour moment or are less likely to be collaboratively decided. Examples of decisions where the treatment provided is not decided collaboratively include: responding to intrapartum haemorrhage, a tight nuchal cord and managing shoulder dystocia.

Literature review

The clinical reasoning process is well documented, with slight changes in wording and emphasis (Elstein et al., 1978; Thompson, 1999; Mong-Chue, 2000). The clinical reasoning model that we have developed is grounded in the work of these authors. We have validated and adapted our model of clinical reasoning for midwifery practice, which includes both analytical and non-analytical ways of knowing (see Table 2). In summary the process begins with assessment of the person with the clinical condition to identify cues i.e. signs and symptoms (*cue acquisition*). The process then proceeds by *clustering and interpreting cues* that seem to be related to each other (e.g. abdominal pain and bright bleeding during second stage labour). Next one or more hypotheses are formulated (this might be a second stage show or it might an intrapartum haemorrhage, it might even be uterine rupture).