

The importance of the user voice in clinical decision making: a reflective account

Abstract

Effective clinical decision making is crucial to patient safety. A tripartite case decision was analysed to find learning points to improve clinical decision making. The case decision was analysed using the dual process theory and the intuitive humanistic model. The place of individual thinkers was analysed and their use of 'system 1' and 'system 2' thinking was considered. The impact that the diversity of individuals and their skill levels had on the clinical decision was analysed. It was concluded that a team consisting of both system 1 and 2 thinkers, as well as individuals at different places on the novice to expert continuum, would be beneficial in creating a balanced choice. The importance of the patient voice in clinical decision making was highlighted.

Keywords

Decision making | Dual process theory | Intuitive humanistic model | Midwifery | Service user

Decision making can be seen as a process of choosing between different options, where each option would yield a different outcome (Marshall, 2005). The growing autonomy and specialised skillsets now expected and held by midwives increases the need for effective decision making (Zolkefi et al, 2020). It is crucial for women's safety and wellbeing that the multidisciplinary team consider, reflect on and learn from processes of decision making (Kirkup, 2015; Ockenden, 2022).

In this article, the case study of a tripartite decision between Sarah (pseudonym), a student and an anaesthetist about which pain relief option would be best to use in labour is used as a basis for reflection and analysis. The context of decision-making theory is a large one, with a range of different theories and models. These can be broadly categorised as normative, descriptive or prescriptive (Bell et al, 1995), or those looking at optimised decision making, recommendations to improve decision making, and descriptions of decision making processes (Standing, 2017). To aid in the examination of this decision, two descriptive models have been chosen to add insight into the processes involved within the decision made. Through the dual processing theory (Evans, 1989) and the intuitive humanistic model (Benner, 1984), the effect of risk taking, personal bias and teamwork of different skill levels and categories of thinking are considered. The role of the midwife, professional accountability and the importance of being woman centred are also examined.

System 1 and system 2 thinking

When reflecting on the factors affecting the decision-making process, it is useful to consider decision-making theory. The dual processing theory suggests that thought process can be distinguished as either intuitive or analytical. This was originally refined into one theory by Evans (1989), who divided the analytical and intuitive thoughts into separate groups: system 1 (S1: intuitive, fast, unconscious) and system 2 (S2: rational, slow, conscious) (Kahneman, 2003). This is

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relevant to the tripartite decision presented in the case study in *Box 1*, as the individuals within the decision can be divided between these two systems.

S1 thinking is often defined by habit and governed by internalised precepts (Evans, 2008). In the case decision, the anaesthetist demonstrated characteristics of S1 thinking and quickly formed a view on which choice would be most appropriate, prior to discussing it with Sarah. For the anaesthetist, this was a routine decision that did not engage S2 thinking. This has benefits, as it relies on easily accessible thought, creating pattern recognition and enabling faster thinking (Kahneman, 2003) and limits the mental effort exerted, meaning that it will not be disrupted by effortful tasks (Pashler, 1998). However, the safety of using S1 thinking relies on the skill of the thinker (Kahneman, 2003), especially as it does not allow for the consideration of other perspectives prior to a decision being made. An increase in skill will increase the accessibility of useful and safe responses in intuition (Kahneman, 2003), which S1 relies on using. For these fast responses to be monitored, S2 needs to be engaged (Kahneman, 2003). If the thinker does not engage S2 thinking, thereby not regulating or reconsidering their immediate and most accessible responses, this can lead to potential safety issues, such as anchoring or 'confirmatory bias'. It is reasonable to assume that the anaesthetist was skilled, because of their experience, training and grade, implying that their decision-making was safe. This is further supported by Klein (2003), who asserts that for skilled decision makers, using S1 thinking will often produce better results than S2.

In this case decision, the student and Sarah demonstrated attributes of S2 thinking, in that their decision-making process was slower and more considered, which also has strengths and limitations. Doubt is a concept only present in S2 thinking (Kahneman, 2003) and creates a process of decision-making that is deemed safer, especially to a thinker who is not well skilled in that area, as it creates opportunity for self-moderation. The benefit of deliberate control can be outweighed by the disadvantage of a heavy cognitive load, being unable to multitask, being distracted from the task by other high cognitive decisions and a decrease in speed. In an emergency setting, this potentially jeopardises safety. As this tripartite case decision was not time critical, and there were no other pressing decisions to be made, an S2 way of thinking was deemed safer than using the S1 process.

Limitations of the dual processing theory

There are limitations to dual processes as a concept. First, some dual process theories differ in their presentation of how the two systems interplay, making it hard to apply to the case decision with ease. Frankish (2007) suggests

Box 1. Case decision

A midwife and a student midwife cared for Sarah (pseudonym) throughout induction of labour. Sarah's cervix was assessed as 4cm dilated and she was using Entonox as pain relief, as per patient group directives.

Sarah was becoming increasingly uncomfortable and requested stronger pain relief. On discussion with the student midwife, it became clear that there was a choice between remifentanyl or an epidural. The main risks and benefits were discussed with Sarah as follows.

An epidural provides complete numbness from the waist down, often providing excellent pain relief. It requires a cannula and a urinary catheter to be sited and can reduce mobilisation. An epidural can commonly have reduced effectiveness. It rarely causes a significant drop in blood pressure, a severe headache and temporary (rare) and permanent (extremely rare) nerve damage.

Remifentanyl is a form of patient-controlled analgesia and has a short half-life, providing good pain relief for the time of contractions, within Sarah's control. It is often quicker to set up than an epidural and does not require a urinary catheter. Feelings of nausea and dizziness are common side effects of remifentanyl. Rare risks include a drop in blood pressure, heart rate or respiration. Sarah was informed that these would be monitored and could be treated, with her consent.

Sarah expressed fears surrounding having an epidural; she had heard that there was a risk of paralysis and long-term effects. The student notified the anaesthetist, who came to see Sarah to discuss the risks and benefits of both options and provided evidence to support the clinical recommendation to have an epidural. Sarah showed no signs of wanting to question this perspective, so the student expressed Sarah's concerns and fear of having an epidural. This facilitated space to talk through her fears, following which Sarah opted to have an epidural.

that S2 thinking has intentional control over S1 thinking, whereas Wilson and Dunn (2004) suggest that S1 thinking has control over behaviours and, without realising, people use S2 thinking to justify these behaviours.

In terms of the case study, this could suggest that both the student and Sarah had already made a choice using S1 thinking, and were simply using S2 thinking to justify it. If so, the initial perceptions of decisions, guided by S1 thinking, could cause an anchoring bias (Lieder et al, 2017) from which all other opinions are skewed. In a healthcare setting, where it is important that personal biases are recognised to prioritise the need of the patient (Nursing and Midwifery Council (NMC), 2018), this bias could be mitigated by engaging S2 thinking.

A further suggested limitation of dual processing theory, and the terminology determined by Evans and Stanovich (2013), is that it does not allow for complexity. In using the term 'system' and not 'systems', one may overlook the multiple neurological pathways being used in both intuitive and analytical thinking (Evans and Stanovich, 2013). Some critics (Osman, 2004) go further and suggest that the theory fails by even defining the systems as a dichotomy and not a continuum. Stevenson (1997) suggests that S1 and S2 thinking are poles at either end of this continuum.

Table 1. Novice to expert definitions and applications to the case decision

Term	Definition	Application to case decision
Novice	<ul style="list-style-type: none"> ● Limited ability to foresee events ● No flexibility in approaches to situations ● Dependence on guidelines 	Sarah fits into the novice category in her clinical understanding. She was reliant on the information and processes provided to her by others involved in the decision. She should be classed as 'expert' in the understanding her own body
Advanced beginner	<ul style="list-style-type: none"> ● More experience allows for recognitions of common situations ● Lack of in-depth experience 	N/A
Competent	<ul style="list-style-type: none"> ● Have a range of experiences and can plan detailed patient care ● Can recognise patterns and the development of situations 	The student fits into the competent category in that they had previous experiences in this area and could recognise basic patterns that they had experienced. They could not yet view the situation holistically or adapt to developments in their surroundings
Proficient	<ul style="list-style-type: none"> ● Can view the situation holistically ● Can readily modify and adapt plans to developing situations 	N/A
Expert	<ul style="list-style-type: none"> ● Have a depth of knowledge and experience ● Have an intuitive understanding that covers many situations ● Can use analytical thinking to approach unencountered experiences 	The anaesthetist can be classed as an expert as they had a deep knowledge base underpinning their judgment of this situation and could use this to approach the case decision analytically

This could more easily be applied to the decision being examined, as it creates flexibility when defining which system the individuals fall into. Sarah could be defined as being close to the S2 pole, as could the student, as she was quick to assume which pain relief would be best, but reconsidered and spent time deliberating. This brings into question where the anaesthetist would fall between the two poles. There is no evidence in the literature to show that someone skilled in a routine task cannot carry it out with speed, even when using S2 thinking. As such, the anaesthetist may have been analytically considering options more quickly than the other two individuals, as they had more experience. Therefore, he may also be placed close to the S2 pole. The idea of a continuum provokes more consideration and perhaps more accuracy than a dichotomy approach.

The dual processing theory was not designed with healthcare in mind and does not acknowledge the context of the individual or how this could influence thinking. Personal biases, time pressures, fatigue or pain could affect the tripartite decision. Osman (2004) acknowledged biases to some extent by suggesting that initial experiences will impact how information is encoded and how accessible it will be in future. S1 reasoning is influenced by the accessibility of information (Kahneman, 2003), and as such, personal experiences could affect the judgements made, but this is the extent to which the experiences, personality or context of the thinker are considered. The voice of the patient is central to all healthcare decisions (NMC, 2018) and professionals rarely make decisions in isolation. Input from other

professionals and the voice of the patient is another factor that is overlooked by the dual processing theory.

The intuitive humanistic model

The intuitive humanistic model, with the novice to expert continuum, also originated outside of a healthcare setting (Dreyfus and Dreyfus, 1980), through the study of chess players and pilots (Benner, 1982). However, it has been adapted to fit a nursing background (Benner, 1984) and fits with more ease into the case decision. The theory suggests that the expert uses intuition in their judgements, setting them apart from the novice who relies predominantly on guidelines and principles to navigate situations (Thompson, 1999).

Benner (1984) outlined a definition of different states on the novice to expert continuum and while this was considered in a nursing context, this application includes Sarah's voice in an attempt to modernise its use (Table 1). In this tripartite case decision, Sarah falls into the novice category, the student falls into the competent category and the anaesthetist falls into the expert category.

Intuition has many different definitions; however, one way of viewing it is as an 'understanding without a rationale' (Benner and Tanner, 1987). Kahneman (2003) suggests that, through S1 thinking, the brain presents the thinker with only one option and does not present rejected options. This could be seen as synonymous with intuition, as the thinker would come to conclusions without having consciously thought through the options. The thinker would not fully know why they have reached their conclusion. This would support the idea

that, in this tripartite case decision, the anaesthetist, being the expert, was using S1 thinking, or even intuition, to come to a conclusion, as opposed to using S2 thinking. Conversely, the novice, who was relying on principles to navigate their decision, was using S2 thinking.

Similar to the dual processing model, the intuitive humanistic model has its weaknesses. Both the model and the expert–novice continuum (Benner, 1984) are only supported by dated qualitative research. More recent research in a greater breadth of methodologies would be beneficial in supporting this theory in a contemporary context.

The NMC (2018) code states that midwives must work to ‘identify and reduce risk’ and prioritise the needs of women in their care. In the case decision being analysed, Sarah needed to find a pain relief choice that not only met her need but that she felt safe receiving. To reach that decision, Sarah needed to discuss the risks of both options and discuss her fears surrounding an epidural. Midwives need to be advocates for women, and so the student voiced Sarah’s fears to the anaesthetist, and he was able to provide the information Sarah needed to make an informed decision. The anaesthetist presented these risks after making a judgement, using S1 thinking or intuition. S1 thinking does not engage analytical thinking (Kahneman, 2003) and will not analyse risk in the way that S2 thinking would. In forming a judgment, the anaesthetist could have overlooked some risks as justifiable, without analysing if Sarah would feel the same way. In presenting the information after forming this intuitive judgement, there is the potential that it was given in a biased way.

This potential for bias could also be carried across to documentation. Midwives are accountable for the decisions they make (Tilley and Watson, 2004; Cooke, 2005). With documentation consuming a significant portion of time for healthcare professionals (Penoyer et al, 2014), it could be easy to slip into S1 thinking, allowing for multitasking while documenting. But in order to respect accountability, it is essential that midwives engage S2 thinking and document events without bias where possible. Clear documentation of the decision-making process will enable midwives to justify decision making after the event, to tell women’s narratives in the future.

Teamwork

The Department of Health (2004) highlighted the importance of multi-professional teamworking in delivering safe care. From analysing this tripartite case decision, it is clear that multiskilled teams are beneficial in meeting care needs. Having a team with a range of individuals on different points of the novice–expert continuum (Benner, 1984) facilitates thinking from both S1 and S2 approaches. This allows for quick and intuitive

thinking, while also allowing reasoning to promote safety, consider risk and suggest alternatives. A literature review of teamwork efficiency found that a diversity of experience can increase productivity and outcomes (Zhou and Rosini, 2015). Differing positions on the novice–expert continuum may equate to a range of experiences, supporting the need for diversity of skill in teams. This fits with the human factors body of evidence and safety tools such as ‘teach or treat’ (Royal College of Obstetricians and Gynaecologists, 2022). Healthcare should be patient focused (NMC, 2018) and to achieve this, the patient should be considered as part of the team, and is key in the pre-registration education standards for midwifery (NMC, 2019). While Sarah was a novice clinically, value should be placed on this, as it increases the team diversity, ensuring there is always an S2 thinker; she can also be seen as an expert in herself and so is a valuable member of the team looking at her individual care needs.

Having a diverse mix of skills and a combination of S1 and S2 thinkers may create a team responsive to a variety of situations with both speed and rationality. Including an S2 thinker will add a level of safety, if the S1 thinker is unskilled, by adding a level of monitoring to actions made. However, the role of the midwife is largely autonomous, and while it is in the woman’s best interest for a midwife to recognise their sphere of competence as well as times when they need to engage other members of the team, there will be many decisions which the midwife will make on their own. In these cases, it is still important to engage both S1 and S2 thinking. The safety of their decision-making is a midwife’s responsibility and so they must actively analyse their initial assumptions and decisions. This will also increase the consideration of the needs of the woman as an individual (Ockenden, 2022).

Ethics of decision making while in pain

In this case study, Sarah was in pain and the ethics of individuals making decisions when in pain should be considered. Research surrounding ethics in pain management (Cohen and Jangro, 2015; Carvalho et al, 2018) do not consider the patient as part of the team and make recommendations for healthcare professionals only. Similarly, research supporting the dual process theory does not consider how context can influence thought processes. Pain could pressure a woman to make decisions more quickly, reducing analytical thinking and leading to S1 thinking. In this case decision, it was the midwife’s role to analytically present the advantages and disadvantages of each pain relief option, in an evidence-based manner (NMC, 2018).

The programme of care and National Institute for Health and Care Excellence (2020) guideline state that all women should be offered pain relief based on their

Key points

- The dual process model and the intuitive humanistic model were applied to a case study of a tripartite decision to explore clinical decision making.
- Individuals who are 'experts' will often approach a decision intuitively while those who are 'novices' often approach it more analytically.
- Teams that are diverse in skillsets are often stronger, as are teams that contain both experts and novices.
- It is key in effective woman-centred decision making that the user voice is viewed as part of the team.
- If the user voice is not being put forward, it is the role of the midwife to advocate on their behalf.

perception of its need and not on the stage of labour that they are in. Ethically, this should never change (Carvalho et al, 2018), as women have a human right to access the pain relief they need and be well informed about it (National Institute for Health and Care Excellence, 2020). The potential for a biased presentation of evidence was noted in this case. To mitigate this, practitioners could ensure they engage S2 thinking before discussing options with a woman. S2 thinking can moderate S1 assumptions and intuitions (Kahneman, 2003), ensuring that the practitioner has not overlooked any information or risks that they deem justifiable, but that should still be presented to the woman.

Conclusions

A woman's needs should always be central to midwifery decisions (NMC, 2018; Ockenden, 2022). If a woman is in too much pain to advocate for herself or analytically consider her options, it is the role of the midwife to support her. This is made easier through the continuity of carer model (Royal College of Midwives, 2020), as the midwife can be familiar with the woman's wishes through discussions that take place antenatally.

A parallel can be drawn between the intuition that experts use and the traits of S1 thinking. Experts often use intuition or S1 thinking in decision making, which has benefits in a healthcare setting as it will increase speed and reduce the cognitive load of decision making. However, the decision will not have been thought through analytically and will have been based on previous experience, not the specific current situation. People closer to novice on the continuum are more likely to engage S2 thinking, meaning that they approach the decision analytically and can make a decision that is more tailored to the exact situation they face. S2 thinking also reduces the potential for bias when presenting choices or evidence to women. Teams are stronger if they use a mix of the two systems and make use of their benefits in response to different situations. S2 should always be used

when considering women's wishes, as a way to reduce personal bias. **BJM**

Declaration of interests: *The authors declare that there are no conflicts of interest.*

Peer review: *This article was subject to double-blind peer review and accepted for publication on 10 October 2022.*

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CPD reflective questions

- Are women and people always viewed as members of the team in clinical practice? What could be enhanced to develop this in your clinical role?
- How often have you experienced 'freedom' in clinical teams to encourage individual views and planning, regardless of clinical seniority?
- How diverse are the clinical skillsets and levels in your clinical teams and what are the potential benefits if this were to be increased?
- Reflect on a recent clinical situation where you found it beneficial to make quicker, intuition-based decisions.
- Reflect on a recent clinical situation where you found it beneficial to make slower, analysed decisions.

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