Using judgement to improve accuracy in decision-making


Nursing judgements are complex, often involving the need to process a large number of information cues. Key issues include how accurate they are and how we can improve levels of accuracy. Traditional approaches to the study of nursing judgement, characterised by qualitative and descriptive research, have provided valuable insights into the nature of expert nursing practice and the complexity of practice. However, they have largely failed to provide the data needed to address judgement accuracy. Social judgement analysis approaches are one way of overcoming these limitations. This paper argues that as nurses take on more roles requiring accurate judgement, it is time to increase our knowledge of judgement and ways to improve it.

This is the third of four papers discussing judgement and decision-making in nursing. The first paper in this series (Thompson et al, 2004) discussed how complexity associated with decision problems could be made sense of by using an approach to structuring decisions known as decision analysis. The aim of this article is to discuss the issue of judgement in nursing. In particular, it examines the way nurses may use information to inform their judgements, and ways in which this process can be assisted to improve the accuracy of judgements.

**Judgement in nursing**

The process of judgement involves integrating different aspects of information (which may be about a person, object or situation) to arrive at an overall evaluation (Maule, 2001). In nursing this could be considered as the process of using different types of clinical information about the patient (such as appearance, vital signs, and behaviour) to make an assessment of her or his current health status (Dowding and Thompson, 2003). Judgements feed into decision-making (Box 1) in that the evaluations or assessments an individual makes can be used as the basis of choice between alternatives. For example a nurse may assess a patient as being ‘at risk’ of developing a pressure ulcer (judgement) and then ‘choose’ a particular intervention to reduce that risk (decision) on the basis of the assessment.

Examining judgements in nursing is important, as they have an effect on decisions taken about patient care. Harvey (2001) suggests decisions may be poor because the judgements on which they depend are inaccurate or because individuals combine different judgements inappropriately. Therefore, a key issue for nurses and patients is ensuring judgements are as accurate as possible.

There are two main reasons for inaccuracy:

- The nurse may be using information that has no utility for the judgement in question (Cioffi 2002);
- The nurse may be placing too much importance on intuition, in clinical decision-making.

**REFERENCES**


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**BOX 1. DEFINING JUDGEMENT AND DECISION**

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<tr>
<th>JUDGEMENTS</th>
<th>DECISIONS</th>
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<td>Generally considered to be assessments, estimates or predictions of an entity (Harvey, 2001)</td>
<td>Generally considered to be opposed to decisions, which are considered to be a choice between alternatives (Dowie, 1993).</td>
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across cases. The process of thinking aloud involves the interviewing (Tanner et al, 1987; Corcoran, 1986). Variations of a ‘think aloud’ technique and retrospective encounters in the past (Elstein et al, 1990). These ‘short patient case being considered and ones that have been involved in the recognition of similarities between the more likely to use a process of ‘pattern matching’, which in situ appears to be used by individuals in situations where Hammond et al (1966) found they used 165 different nurses use to make a judgement about patient pain, information that appear to be used vary considerably. For reaching (Thompson and Dowding, 2002). The types of presentation of practice but it is difficult to observe a sufficient range of scenarios for a given judgement in order to determine how information is used to make that judgement (Harries and Harries, 2001). Many of the studies look at a broad range of practice, which means detail about the information cues is often lacking. Also, a reliance on self-report methods (such as interviews and thinking aloud) means the research is dependent on a participant’s insight into her or his judgement processes and ability to verbalise these processes.

By definition expert judgement usually involves the use of automatic, unconscious thought processes (often referred to as intuition). Such experts often will not be able to verbalise their thoughts – a characteristic that limits the analysis of their judgements (Lamond and Thompson, 2000).

Limitations of descriptive research

In summary, if we are interested in the accuracy of judgements, much of the descriptive research into nursing practice fails to provide the evidence that is needed to inform practice. These types of study are a useful representation of practice but it is difficult to observe a sufficient range of scenarios for a given judgement in order to determine how information is used to make that judgement (Harries and Harries, 2001).

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Social judgement analysis

The lens model

The theoretical basis of social judgement analysis is the ‘lens’ model of cognition proposed by Brunswik. This is a representation of the relationship between a person and her or his environment (Harries and Harries, 2001). Brunswik suggested that to investigate judgement, researchers should take into account the unpredictable nature of the environment in which they operate, and that a range of judgements, in a range of situations, needs to be investigated (Harries and Harries, 2001).

The lens model can be represented diagrammatically (Fig 1). In this diagram the left-hand side represents the environment (such as a patient’s state of health). A number of different information cues will be related probabilistically to this environment. The right-hand side represents the individual making the judgement. This person uses information cues to make her or his judgement on the environment (for example, do I need to call a doctor?) and in doing so will attach more weight to some cues than others. By comparing the way the information cues are related to the state in the environment and the weighting assigned to information cues by the judge, one can identify:

- If the person’s judgement is accurate (is there a corre-
Cognitive feedback

As well as being able to identify possible sources of error in judgement – which may affect judgement accuracy – the results of social judgement analysis studies can be used to provide ‘cognitive feedback’ to participants as a way of improving their accuracy. Cognitive feedback is different to outcome feedback, which provides participants with the outcome of each case, in that it contains information about the ‘optimal’ strategy (how information is related to the patient state in the environment) and the individual’s own policy (how she or he uses the information). With this knowledge they can identify disparities and be aware of how to improve their use of information (Wigton, 1996). Various studies that used cognitive feedback have shown it can improve diagnostic accuracy and prognostic predictions (Wigton, 1996).

Social judgement analysis requires individuals to make judgements as they normally would, and then uses statistical techniques to describe the relationship between the information available to the judge and the judgement or decision made (Harries and Harries, 2001). The focus of these studies is not the process of judgement, rather an analysis of how information use is linked to judgement accuracy, so in this way studies are able to analyse in detail how and why judgements may differ among individuals, as well as offering a way of improving accuracy through the use of cognitive feedback.

Another strength of social judgement analysis is that it is not reliant on the ability of participants to self-report their judgement processes, and can identify policies that judges are unaware of (Harries and Harries, 2001). However, social judgement analysis studies are often reliant on the construction of scenarios, frequently with limited sets of information presented in a way not found in reality. So, as with all other types of study, they do have limitations.

Conclusion

As highlighted by Hammond et al (1966) nursing judgements are complex, often involving the need to process a large number of information cues. Key issues in the study of such judgements are the analysis of judgement accuracy and ways of improving accuracy.

More traditional approaches to the study of nursing judgement have provided valuable insights into the nature of expert nursing practice and the complexity of practice. However, they have limitations in terms of being able to provide the specific data needed to address judgement accuracy.

Social judgement analysis approaches may be a way of overcoming these limitations. However, as yet these approaches have been more common in medicine, examining the nature of medical diagnosis and prescribing (Skåner et al 2000; Harries et al 1996), than in nursing practice.

With nurses taking on roles requiring accurate judgement, it is time for clinicians and researchers to grapple with this thorny issue in ways that will reveal possible routes forward rather than offering just description.