

## **ABSTRACT**

**Aim.** This study explored the use of information by nurses making enteral feeding-related decisions. In this paper we report the characteristics, which participants identified as important, of the people from whom they sought information for the purpose of making clinical decisions.

**Background.** Registered nurses have a plethora of information sources available to assist them in making clinical decisions. Identifying and selecting the best information to support these decisions can be difficult and is influenced by factors such as accessibility, usefulness and variations in quality of the information.

**Design.** An instrumental case study design using multiple case study analysis.

**Method.** Twenty-two critical care nurses from two intensive care units contributed to the data through multiple methods of data collection including concurrent verbal protocols (think aloud), retrospective probing and focus group interviews.

**Results.** Nurses preferentially used colleagues as a source of information when faced with uncertainty about their clinical practice. Most participants placed greater emphasis on evaluating the individual providing the information rather than on evaluating the information itself. Key features used for identifying an individual as a source of information included experience, clinical role, trust and approachability.

**Conclusion.** Establishing clearly what clinical credibility means, and to what extent trustworthiness and expertise play a role in the establishment of credibility, is an important debate for nursing. We need to carefully consider what defines the construct of clinical

credibility, and how this aligns with the concept of clinical currency, in order to allow clinicians to determine in others the characteristics associated with clinical credibility in order to access quality information through social interaction.

**Relevance to clinical practice.** Processes to focus on determining the quality of information obtained from colleagues should be emphasised. What these processes are and how they could be implemented into clinical practice remains unknown and is highlighted as an area for future research.

**Key words:** information use, decision making, intensive care unit (ICU), knowledge transfer, naturalistic inquiry, nursing

## **INTRODUCTION**

In the context of clinical practice nurses frequently seek information to guide decisions about patient care (Corcoran-Perry & Graves 1990, Blythe & Royle 1993, McCaughan *et al.* 2005). While numerous sources of information are available (Estabrooks *et al.* 2005b) it appears that nurses preferentially use information gained from colleagues when faced with clinical uncertainty (Thompson *et al.* 2001c, Estabrooks *et al.* 2005a, Marshall *et al.* 2011). However, the expectations that the best evidence be used to inform clinical decisions have increased such that significant resources have been invested to support evidence-based practice initiatives (Charles *et al.* 2010). In this context, ‘best evidence’ is often considered to be research-based evidence (Rycroft-Malone *et al.* 2004). However, within nursing, and arguably other health care professions, the existing research base for many aspects of clinical practice is underdeveloped. This, in addition to the difficulties encountered when implementing available research-based evidence in clinical practice, (MacGuire 2006, Squires *et al.* 2007) makes realising evidence/research-based practice challenging and necessitates the use of other types of evidence when making clinical decisions.

## **BACKGROUND**

Identifying and selecting the best information to support clinical decisions made by registered nurses can be difficult and will be influenced by factors such as accessibility, usefulness and variations in quality of the information itself. In an investigation of acute care nurses information use in clinical decision making, Thompson *et al.* (2001a), found that nurses predominantly used other people as sources of information over print or electronic based mediums. It was suggested that participants found using other people, especially those they

trusted and viewed as being clinically credible, to be more useful for resolving their clinical uncertainty (Thompson *et al.* 2001b). Ease of access was also likely to have contributed to participant's preferential selection of people as sources of information in the clinical area.

In a longitudinal cross-study comparison of nurses knowledge sources for routine clinical practice a plethora of sources were identified and from this, Estabrooks *et al.* (2005a) developed a taxonomy of sources of nurses' practice knowledge. This taxonomy categorised sources of information into four broad groupings: social interaction (n=22); experience (n=3); documents (n=9); and a priori knowledge (n=3). The use of social interaction as a source of information dominated the findings with the interaction between workplace colleagues comprising the majority of informal interactions and perhaps indicated that the information was required for immediate and practical use.

The importance of social interaction as a means of obtaining information needed to make clinical decisions was also evident in our study of enteral feeding practices of critical care nurses (Marshall *et al.* 2011). We too found that people were the most commonly identified sources of useful and accessible information, with print and electronic information being less frequently identified as useful and accessible. Proximity was also an important factor for selecting individuals as information sources, although experience and perceived expertise were additional considerations. The preference for using people as sources of information was also sufficiently strong that if clinical uncertainty was not resolved in the first instance, many participants described or were observed to seek additional information from a different person, and in some instances would progress through numerous individuals until uncertainty was resolved.

The reliance on others as a source of information may be convenient and is potentially useful

but it is arguably more difficult to evaluate the veracity of information obtained verbally. The level of trust attributed to information obtained from others, together with the potential for information variability, is concerning. While obtaining information through informal strategies may be appropriate and reasonable within clinical practice environments, such information should not be indiscriminately or unquestioningly trusted as the veracity of the information requires a level of scrutiny similar to that applied to information received from more formal information sources. If verbal information from others is to continue as a primary source of information to guide clinical decision making it is essential that clinicians give consideration to appropriately selecting colleagues as sources when seeking information. There is however, little known about the characteristics of those from whom information is sought, the evaluation of these sources, or the information they provide.

## **AIM**

The broad aim of this study was to explore the use of information by nurses making decisions in clinically uncertain situations in one aspect of critical care nursing practice (enteral feeding). In this paper we report the characteristics, which participants identified as important, of the people from whom they sought information for the purpose of making clinical decisions.

## **METHODS**

### **Design**

To observe the use of information in a clinical practice environment this naturalistic study was designed using case study methods as described by Yin (2009) and Stake (1995). The unique case was defined as information use in clinical practice and the social situation of interest as

intensive care nursing practice (Hammersley 2000). An instrumental case study design with multiple cases allowed for theoretical replication (Yin 2009) and supported our focus on developing an understanding of the phenomenon of information use in clinical decision-making. The institutional review board at each participating institution and the university's Human Ethics Committee granted approval for the study.

### **Study Setting and Participants**

Two Australian intensive care units served as the case sites for this study. The first case site was an intensive care unit located in a 740-bed university affiliated tertiary-level teaching hospital and had 13 funded beds with the capacity to provide care for up to 19 patients. The unit catered for a range of adult critically ill patients with postoperative and non-operative neurological, cardiothoracic, trauma and severe burns clinical presentations. The second case site was a mixed ICU/cardiac unit located in a 186-bed metropolitan hospital. Adult critically ill patients with a range of medical and surgical diagnoses were admitted to this unit which had the capacity to invasively ventilate three patients at any given time. Patients requiring speciality care were transferred to a tertiary referral centre.

Twelve registered nurses (RN) (six at each case site) with at least one year of intensive care nursing experience providing direct patient care for a minimum of two days per week participated in the think aloud data collection process. Most participants in the think aloud group were under the age of 35 years, were female and had less than 10 years' experience as a registered nurse. Seven of the twelve think aloud participants had a postgraduate qualification in critical care. A total of ten senior nurse clinicians (SNC), seven from Site 1 and three from Site 2, who were collectively responsible for leading the education, research and patient management

within the intensive care unit, participated in the focus groups. The majority of the focus group participants was under the age of 40 years, was female and had more than 10 years experience as a registered nurse. All but one of the focus group participants had a postgraduate qualification in critical care. Full participant characteristics are provided in Table 1. All participants were assigned pseudonyms.

### **Data collection**

Data were collected between July 2005 and July 2006 from multiple sources, including concurrent verbal protocols, Q sort and focus groups (Marshall *et al.* 2011). Specific to the findings reported here, we used concurrent verbal protocols (think aloud) with non-participant observation to collect data on the information used during the first two hours of the participant's shift as they provided direct patient care.

The think aloud data collection process required the participant to wear a lapel microphone attached to a recorder. The day prior to data collection all participants undertook a 30-45 minute practice session where they were instructed in the process of think aloud (Ericsson & Simon 1993). This session served to determine the participant's ability to simultaneously think aloud and safely care for a critically ill patient, and also provided an opportunity for the participant to become familiar with the researcher. Data obtained from the think aloud process and related observations were transcribed verbatim immediately following data collection and an individual interview schedule developed based on these data.

Retrospective probing (individual interview), was used to gain further insight into the think aloud data (Young 2005). To facilitate the participant's recollection of the period of care, the interview was conducted before the participant nursed another critically ill patient and after the

participant reviewed their think aloud transcript. The analysis of these data focussed on determining the participant's thinking at that time (Aitken & Mardegan 2000).

The focus groups with the SNC provided an opportunity for the exploration of group interpretations of information use within the intensive care unit, with individual experiences and perspectives being presented and opportunity provided for the group to then discuss and attempt to collectively make sense of the issues identified (Morgan & Krueger 1993).

### **Data Analysis**

An inductive approach to data analysis, where 'detailed readings of raw data to derive concepts, themes, or a model through interpretations made from the raw data...' (Thomas 2006)(p. 238), was used for the analysis of all think aloud and focus group data. Within the larger analyses, data were examined at the case site level and through a cross-case analysis (Marshall *et al.* 2011). In the analyses reported here, we examine data at the participant level. Data collection and analysis was undertaken by the principle researcher, and findings were verified and refined within the research group.

### **RESULTS**

Throughout the dataset participants demonstrated a strong preference for using colleagues as a source of information when faced with uncertainty about their clinical practice. Similarly, when seeking information of this type most participants placed greater emphasis on evaluating the individual providing the information than on evaluating the information itself. Analysis identified the following characteristics as the main determinants for identifying an individual as a

source of information: level of clinical experience; clinical role; and trustworthiness and approachability.

### **Level of Clinical Experience**

Although accessibility was an important consideration when identifying potential information sources experience was a characteristic considered by all participants and viewed as critical by some as Robert, RN, emphasised by qualifying his initial response that indicated his “*first step would be to ask whoever is next to me*” by adding “*...if they are more experienced.*” Seeking information from more experienced nurses was seen as a way of accessing reliable information and participant’s repeatedly demonstrated their perception of a direct link between level of experience and level of knowledge as the following comments illustrate:

*I would ask someone... at my level or a similar level. If I didn't know the answer then I wouldn't be asking a new grad because it would be unlikely that they would have that level of [knowledge].* Abigail RN

*I generally go to more senior people because they have had more exposure in ICU.*  
Jordon RN

For Beverley, RN, determining whether to seek someone’s opinion simply involved asking, “*how long they had been in ICU.*” Other participants, however, expressed some uncertainty about assuming a direct link between experience and a particular nurse’s level of knowledge. As Niki, RN commented...

*...even senior people that you ask, some you can sort of... you know that they know what they are talking about and others you think, I'm really not too sure.*

Experience with a specialised aspect of nursing practice was also considered important, irrespective of the length of time an individual had been practicing as an intensive care nurse. David, RN provides an example of approaching a colleague from a cardiothoracic ward to provide information on chest drains explaining that, "*Because they are more experienced with it [the chest drain] than I would be*" they would be more "*knowledgeable*" and "*credible*". In this situation it was the context rather than the length of the colleague's clinical experience that was important and viewed as increasing the individual's credibility. Jordan, RN also supported this when commenting that "*it [knowledge level]*" wasn't about someone being "*junior*" or "*senior*" in intensive care but about the fact that "*they have done things that I haven't because they have worked in other areas*".

### **Clinical Role**

The clinical position held by the individual was also an important consideration when selecting a colleague as a source of information. A key role was that of the Clinical Nurse Specialist (CNS), a designation that is generally understood to be describing a registered nurse whose primary responsibility was the provision of direct patient care and who has consistently and competently performed at an advanced level within their specialty area (Hudson & Marshall 2008).

Participants and informants in this study therefore viewed a CNS as having an authoritative role that included acting as an information source for clinical nurses.

*I think that [the] CNS is seen as a role model because quite often they will be in a leadership role, they'll be team leader. You'll see them undertaking skills such as delegation and more complex problem solving. So ...they are the logical person for*

*you [to go to] and a clinical expert to assist you with problem solving and answering questions. Sharon, SNC*

Even aspiring to a more senior role was viewed favourably when participants were identifying information sources. Nurses who applied for a CNS position (or similar clinical leadership position) were considered to be knowledgeable and potentially good information sources in the clinical area, regardless of whether they were successful in their appointment.

*I know they are a [CNS] or whatever, then obviously that is a pretty good indication.*

*I know that someone who has been an educator or has even probably sat for an interview to be an educator... then obviously they are up there. Robert, RN*

The participants' expectations of the level of knowledge they perceived as being required for the position of CNS meant that those in this role were often regarded as good sources of information for clinical practice. However, variability in the CNSs' level of knowledge, practice and ability to reliably convey information to colleagues was also acknowledged. In some cases a CNS may have met the hospital's requirements for appointment to the position and may be considered a "good nurse" but "their level of knowledge [is not good]" so they may lack the requisite knowledge to effectively function as a consistent and reliable provider of information in the clinical area. Consequently, discerning difference in the abilities of individual CNSs may be challenging for nurses unfamiliar with the competence or knowledge of individual colleagues.

*... someone who is relatively inexperienced would perceive the authority of the CNS always to be [good] as opposed to someone with more experience who would potentially perceive the [variability] between different CNSs. Reid, SNC*

In the event that clinical uncertainty was not resolved, participants reported that they would continue seeking information from colleagues, in a hierarchical fashion. In these situations the authority of an individual (or of their position) was an important consideration with medical colleagues having ultimate authority, as indicated by Robert, RN who said, “... *if I am really unsure about something I’ll go and ask the doctors*”. However, as with the CNSs, not all doctors were considered equal in their ability to assist with the resolution of clinical uncertainty as Patricia, RN indicated when she commented, “*There might be doctors that are very, very young or [I might] have other reasons to not feel real comfortable with their judgment.*”

Nurses who held a designated clinical role were regarded most favourably as a potential source of information. For example, nurses working in research roles were not considered authoritative sources of information even when they were known to have extensive clinical experience in intensive care and actively contributed to knowledge generation in this area. Participants’ conceptualisations of the nature of research nurses’ role meant that these nurses were not viewed as having clinical credibility and therefore could not contribute meaningful information to clinical questions, as illustrated by the following comment:

*I don’t ask them [research nurses] for information about other areas of my nursing that I don’t see them in. I’m sure they were both [sic] CNSs, educators or whatever before they went into research so I’m sure they would know. I know that [research nurse] was a nurse at one stage but, um, I just don’t see them as a clinical resource. I see them as someone who is doing research in that job. Not [someone] that I would access [to help me with my clinical questions]. Robert, RN*

It may be that, for some participants in this study, an association between experience and perceptions of knowledge and expertise were erroneously created or that experience was truly valued more than knowledge.

### **Trustworthiness and approachability**

Determining the colleague/s who were worthy of their trust was an important consideration when identifying whom to approach for information in the clinical area. In many cases, knowing that a colleague was an experienced intensive care nurse meant that they could be trusted to provide accurate information as Hannah, RN described, *“If I am unsure, I’ll ask a senior staff member...It was an experienced staff member. I trusted her, her opinion”*. For others, trust was developed through an objective assessment of a colleague’s nursing practice and the determination that their approach to clinical practice was commensurate with their own.

*The ones that I would ask I’d watch their nursing practice and the way in which they carry out their nursing care and the decision making processes... like a role model... I can see that they work at a certain level. And the ones that I wouldn’t ask... they’d work at a different level, or they might have a different decision making process ... therefore I might not understand their decision or feel comfortable with it.* Lynn, RN

Trusting that a colleague would provide accurate information was however, only one consideration. Finding a colleague who was *“...the most approachable person...”* was critical and those considered *‘friendly’* were more likely to be approached. Additionally, participants needed to be sure (trust) that the person they approached would not *“make me feel like I am stupid”*. This suggests that even if a colleague was knowledgeable they might not be approached for information if their demeanour wasn’t conducive to collaboration.

*...if there is a choice of people to ask, you are going to ask the person who is less [threatening]. ...., you are going to be less willing to ask someone who is going to belittle you or make fun of you or think you are a bad nurse because you don't know something. David RN*

Selecting which colleague to approach for information therefore required an understanding of the individual's level of knowledge, communication style, and approachability. Consequently, nurses new to the intensive care unit and/or intensive care nursing practice who would be more likely to require information from a colleague would also be less well equipped to determine the most appropriate person to use as an information source. As Jasmin, RN commented, "*How do I differentiate, as a beginner, the ones that really know what they are talking about and the ones who don't*"? Gaining this type of "insider" knowledge is problematic for nurses who are new to a clinical area and the difficulty is amplified by a large staff profile as it may take considerable time to fully consider the capabilities and limitations of colleagues. Consequently, in such situations nurses may frequently be working on "blind trust" when seeking information.

*Someone new who is inexperienced, they don't know who to ask and so you, the new inexperienced person just has to find their feet and it's, that's life. In any situation you just have to work out who to trust and who your support person is and you have a TL [team leader] and hopefully the new people get looked after. Abigail, RN*

## **DISCUSSION**

There is a large body of literature that demonstrates that nurses and other health care professionals prefer to use verbal information to support clinical decisions or resolve clinical uncertainty (Bryant 2000, McKnight & Peet 2000, Thompson *et al.* 2001b, Thompson *et al.*

2001c, Estabrooks *et al.* 2005a, Marshall *et al.* 2011). This paper aimed to describe the characteristics of people selected by participants to provide information for the purpose of resolving clinical uncertainty. Our findings suggest that there are three key characteristics used by intensive care nurses to identify which colleagues they might approach for information in the clinical setting: experience and role, which we collectively consider as clinical credibility, trustworthiness and approachability.

The inextricable links between credibility and trust are well described in the literature (Kasperson 1986, Kasperson 1992, Covello 1992, Covello 1993). Testing six hypotheses regarding the perceptions and determinants of trust and credibility in environmental risk communication, Peters *et al.* (1997) were able to attribute a significant amount of the variation to the three components of knowledge and expertise (clinical credibility); openness and honesty (trust); and concern and care (trust). In our study while trust was an important factor when selecting whom to approach for information it was experience (rather than expertise) and an individual's clinical role that nurses most often used in selecting information sources.

### **Clinical credibility**

Although clinical credibility is considered important (Collington *et al.* 2011), how it is defined and/or achieved in the context of nursing practice remains problematic (Ousey & Gallagher 2010). In our study, the notion of credibility was more-or-less unquestioningly applied to all nurses who were engaged in clinical practice, with level of experience relative to the area of clinical specialty and the individual's clinical role being used as critical elements in determining whom to approach for information. Clinical experience was frequently identified as the first characteristic to be considered and appeared to be a prerequisite, however it was recognised that

experience alone did not necessarily mean a nurse was well positioned to provide useful information or assist with the resolution of clinical uncertainty. Likewise, while a nurse's current clinical role – such as CNS – might be suggestive that the information provided would be of high quality, differences in individual ability were identified as potentially influencing the provision of quality information.

While it is relatively easy to propose that when clinical uncertainty exists, nurses should seek the advice and assistance of experts in their clinical area (with such experts being defined as those with the highest perceived clinical credibility), identifying and accessing the 'expert' may be challenging. As Higgs *et al.* (2001) describes there are multiple interpretations for and of expertise, all of which are context dependent and influenced by culture, time and personal views. In the context of critical care nursing practice, Page *et al.* (2006), in a praxis exploration of the transformational process for a specialist to an expert critical care nurse, identified characteristics suggestive of the expert nurse. Extensive knowledge and the ability to critically reflect were emphasised and expert nurses were characterised as those who acted without conscious thought and used humour. Such experts, under current health care organisational structures, are also expected to engage in leadership roles. Consequently, the expert nurse may work may extend beyond clinical practice and reduce their presence and perceived accessibility within the clinical environment (Marshall *et al.* 2011).

Previous work (Luker & Kenrick 1995, Luker *et al.* 1998) suggests that experience rather than research-based knowledge is more strongly valued by nurses but the extent to which experience should play a role in establishing a nurse's credibility it is not clear. Thompson *et al.* (2001c) suggest that a combination of experience and perceived research awareness contributed to the credibility of information obtained from colleagues but ultimately the determination of

credibility was still associated with a level of trust born of personal assessment of an individual's clinical rather than research skills (Thompson *et al.* 2001b). This suggests that, for some, clinical credibility is highly linked to recency of clinical practice, or clinical currency (Ousey & Gallagher 2010). In our study, the importance of clinical currency was highlighted when nurses with many years of clinical experience, vast knowledge and intensive care nursing expertise were not considered useful sources of information because their current work focused on research rather than direct patient care. This confusion of clinical currency with clinical credibility could potentially mean that, in situations of clinical uncertainty, information is not sought from the most knowledgeable colleague available. The overvaluing of recent clinical experience also potentially further limits the number of colleagues whom nurses consider useful for providing information in the clinical setting as experienced and knowledgeable nurses move through to leadership roles in education, management and research.

### **Trustworthiness**

Trustworthiness, which is linked to the honesty and integrity of the source, is viewed, along with expertise, as the most important components of credibility (Schweitzer & Ginsburg 1966). Earlier work on trustworthiness (MacGuire 1968) suggested that it contributed only a very small component of credibility, while later work (McGinnies & Ward 1980) demonstrated that the source trustworthiness was more important than expertise. This notion has important implications for the seeking and transmission of information within the health care context, particularly if the presence of trustworthiness is determined in the absence of expertise or if the information recipient is ill-equipped to effectively evaluate the level of expertise of their source.

Trust of the person providing information was highlighted by RN participants at both case sites but was not always directly linked with expertise or experience. The participants did not clearly articulate the criteria they used to judge the trustworthiness of another nurse but the suggested importance of personal characteristics, such as approachability and the knowledge that their need to seek information would be respected, implied that a colleagues personality may be an important determinant of their usefulness as a source of information. Participants also indicated that over time they were able to determine which colleagues would provide more credible information. This may perhaps be related to a positive experience in obtaining and using information from particular individuals, which may further establish a sense of trustworthiness in that individual, resulting in a more frequent reliance on a particular nurse as an information provider.

The time required to discern trustworthy and expert sources of information in the clinical setting can be problematic. This may be an important issue for new staff and casual staff who do not have the requisite time to establish relationships and determine trustworthy and credible sources. The lack of existing strategies to identify those who would be trustworthy and credible information sources meant that some participants felt that those new to the intensive care unit should be “warned” about those deemed not useful to approach for information. In this study it was not clear what nurses were being “warned” against as there are a multitude of possible factors that might constitute reasonable grounds for deciding that information should not be sought from some nurses. These may include knowledge deficiencies, substandard practice, poor attitudes and/or a disagreeable personality, all of which can, and should, be addressed through performance management strategies.

### **Evaluation of the individual rather than the information**

In our study evaluation of the individual providing the information occurred more frequently than did evaluation of the information provided. In clinical practice, determining the accuracy of information is difficult because nurses often seek information in the context of clinical uncertainty so it stands to reason that they may not be adequately equipped to fully consider the reliability, validity and accuracy of information given. The lack of knowledge necessary to evaluate the information, together with the human tendency to assume what others say is given faithfully and can generally be relied upon (Reid 1997), means that uncritical acceptance of information offered by others is likely. Burge's acceptance principle contends that 'A person is entitled to accept as true something that is presented as true and that is intelligible to him, unless there are stronger reasons not to do so' (Burge 1998) (p. 467) and suggests that belief in information from others negates a need to think critically about information provided. The inability to critically evaluate information means that nurses may rely on establishing source credibility as a proxy strategy through which to evaluate information quality. In the case of verbal information, the focus is on establishing the credibility of an individual, of which expertise and trustworthiness as components of clinical credibility appear to be important.

### **Limitations**

This study was conducted in two Australian intensive care units and data were collected with a specific focus on enteral feeding practice. Data were collected during 2005 and 2006 and it is possible that these results might be time/context dependent. Since this data collection was undertaken there have been few, if any, changes in the way information is provided at each of the study sites. Context influences the ways in which nurses' access and use information in clinical practice so the extent to which the focus on enteral feeding and/or the culture of either intensive care unit influenced the data collected in this study remains unknown. Consequently, we suggest

that readers exercise caution when considering the findings in relation to their workplace. The timing of the think aloud data collection may be another factor influencing the data generated in this study. We undertook to collect this data within the first 2 hours of patient care with the intent to capture data at a time when we believed the most comprehensive patient assessment might occur. Retrospective probing following this period of think aloud data collection was also focused on what information the participants used to assist with clinical decision making and not specifically on what factors they considered when selecting from whom to elicit information. While experience, the clinical role and associated expertise, trust and approachability were strong themes that developed from the data, it is possible that more purposive questioning focused on identifying credible colleagues might have identified other important factors.

## **CONCLUSION**

Establishing clearly what clinical credibility means, and to what extent trustworthiness and expertise play a role in the establishment of credibility, builds on existing work concerning the nurse expert (Benner *et al.* 1996, Thornley 2007) and is important for nursing. We therefore need to carefully consider what defines the construct of clinical credibility, and how this aligns with the concept of clinical currency, in order to allow clinicians to determine in others, the characteristics associated with clinical credibility and the relevance of this to the provision of information to address clinical uncertainty.

## **RELEVANCE TO CLINICAL PRACTICE**

In clinical practice a number of different information sources are available for supporting clinical decisions. Some of this information comes as published, research-based information and there are several well-established frameworks that can be used to evaluate the quality of information

provided in this manner. However, our work suggests that, for many nurses working in intensive care, there is a heavy reliance on information gained from colleagues. What is concerning is the apparent evaluation of the individual providing the information with little or no emphasis placed on evaluating the veracity of the information itself. In order to further enhance clinical safety, processes to assist clinicians to re-focus on determining the quality of the information obtained from colleagues should be emphasised. What these processes are and how they could be implemented in clinical practice remains unknown and is highlighted as an area for future research.

TABLE 1 Characteristics of participants

<b>Characteristics</b>		
	<b>Think Aloud</b>	<b>Focus groups</b>
<b>Age (yrs)</b>		
21-25	3	0
26-30	2	3
31-35	3	2
36-40	0	3
41-44	1	0
45+	3	2
<b>Gender</b>		
Male	4	3
Female	8	7

**Number of years as a RN**

1-5	5	0
6-10	5	4
11-15	2	5
16+	0	1

**Highest nursing qualification**

Hospital certificate	1	0
Diploma	0	0
Bachelor of Nursing	4	1
Postgraduate qualification	7	9

**Specialty qualifications**

Intensive Care (Adult)	5	7
Cardiac/Cardiothoracic	2	0
Critical Care	3	2

---

## References

- Aitken LM & Mardegan KJ (2000) Using 'thinking aloud' as a means of data collection in the natural setting. *Western Journal of Nursing Research* **22**, 841-853.
- Benner P, Tanner CA & Chesla CA (1996) *Expertise in Nursing Practice: Caring, Clinical Judgment, and Ethics*. Springer Publishing Company, New York.
- Blythe J & Royle JA (1993) Assessing nurses' information needs in the work environment. *Bulletin of the Medical Library Association* **81**, 433-435.
- Bryant SL (2000) The information needs and information seeking behaviour of family doctors: a selective literature review. *Health Libraries Review* **17**, 83-90.
- Burge T (1998) Computer proof, a priori knowledge and other minds. *Philosophical Perspectives* **32**, 1-37.
- Charles C, Gafni A & Freeman E (2010) The evidence-based medicine model of clinical practice: scientific teaching or belief-based preaching? *J Eval Clin Pract.*
- Collington V, Mallik M, Doris F & Fraser D (2011) Supporting the midwifery practice-based curriculum: The role of the link lecturer. *Nurse Educ Today*.
- Corcoran-Perry S & Graves J (1990) Supplemental-information-seeking behavior of cardiovascular nurses. *Research in Nursing & Health* **13**, 119-127.
- Covello VT (1992) Trust and credibility in risk communication. *Health & Environment Digest* **6**, 1-3.

- Covello VT (1993) Risk communication and occupational medicine. *Journal of Occupational Medicine* **35**, 18-19.
- Ericsson KA & Simon HA (1993) *Protocol Analysis: Verbal Reports as Data*, Revised edn. The MIT Press, Cambridge.
- Estabrooks CA, Chong H, Brigidear K & Profetto-McGrath J (2005a) Profiling Canadian nurses' preferred knowledge sources for clinical practice. *Canadian Journal of Nursing Research* **37**, 119-140.
- Estabrooks CA, Rutakumwa W, O'Leary KA, Profetto-McGrath J, Milner M, Levers MJ & Scott-Findlay S (2005b) Sources of practice knowledge among nurses. *Qualitative Health Research* **15**, 460-476.
- Hammersley M (2000) Case study and theory. In *Case Study Method* (Gomm R, Hammersley M & Foster P eds.), Sage Publications, London.
- Higgs J, Burn A & Jones M (2001) Integrating clinical reasoning and evidence-based practice. *AACN Clinical Issues in Critical Care Nursing* **12**, 482-490.
- Hudson PV & Marshall AP (2008) Extending the nursing role in Emergency Departments: Challenges for Australia. *A E N J* **11**, 39-48.
- Kasperson RE (1986) Six propositions on public participation and their relevance for risk communication. *Risk Analysis* **6**, 275-281.
- Kasperson RE (1992) Social distrust as a factor in siting hazardous facilities and communicating risks. *Journal of Social Issues* **48**, 161-187.

- Luker KA, Hogg C, Austin L, Ferguson B & Smith K (1998) Decision making: the context of nurse prescribing. *Journal of Advanced Nursing* **27**, 657-665.
- Luker KA & Kenrick M (1995) Towards knowledge-based practice: an evaluation of a method of dissemination. *International Journal of Nursing Studies* **2**, 59-67.
- MacGuire JM (2006) Putting nursing research findings into practice: research utilization as an aspect of the management of change. *Journal of Advanced Nursing* **5**, 65-74.
- MacGuire WJ (1968) The nature of attitudes and attitude change. In *Handbook of Social Psychology* (Lindzey G & Aronson E eds.), Addison-Wesley, Reading, MA.
- Marshall AP, West SH & Aitken LM (2011) Preferred information sources for clinical decision making: critical care nurses' perceptions of information accessibility and usefulness. *Worldviews Evid Based Nurs* **8**, 224-235.
- McCaughan D, Thompson C, Cullum N, Sheldon T & Raynor P (2005) Nurse practitioner and practice nurses' use of research information in clinical decision making: findings from an exploratory study. *Family Practice* **22**, 490-497.
- McGinnies E & Ward CD (1980) Better liked than right: trustworthiness and expertise as factors in credibility. *Personality and Social Psychology Bulletin* **6**, 467-472.
- McKnight M & Peet M (2000) Health care providers' information seeking: recent research. *Medical Reference Services Quarterly* **19**, 27-50.
- Morgan DL & Krueger RA (1993) When to use focus groups and why. In *Successful focus groups: Advancing the state of the art* (Morgan DL ed.), Sage Publications, Newbury Park, California.

- Ousey K & Gallagher P (2010) The clinical credibility of nurse educators: time the debate was put to rest. *Nurse Educ Today* **30**, 662-665.
- Page K, Street A & Worrall-Carter L (2006) A praxis exploration of the transformational process from a specialist to an expert critical care nurse. *Aust Crit Care* **19**, 151-152.
- Peters RG, Covello VT & McCallum DB (1997) The determinants of trust and credibility in environmental risk communication: an empirical study. *Risk Analysis* **17**.
- Reid T (1997) In *Inquiry into the human mind, on the principles of common sense* (Brookes DR ed.), Edinburgh University Press, Edinburgh.
- Rycroft-Malone J, Seers K, Titchen A, Harvey G, Kitson A & McCormack B (2004) What counts as evidence in evidence-based practice? *Journal of Advanced Nursing* **47**, 81-90.
- Schweitzer D & Ginsburg GP (1966) Factors of communicator credibility. In *Problems in social psychology: Selected readings* (Backman CW & Secord PR eds.), McGraw-Hill, New York.
- Squires JE, Moralejo D & Lefort SM (2007) Exploring the role of organizational policies and procedures in promoting research utilization in registered nurses. *Implementation Science* **5**, 17.
- Stake RE (1995) *The Art of Case Study Research*. Sage Publications, Thousand Oaks.
- Thomas DR (2006) An inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation* **27**, 237-246.
- Thompson C, McCaughan D, Cullum N, Sheldon T, Thompson D & Mulhall A (2001a) *Nurses' use of research information in clinical decision making: A descriptive and analytical study*. University of York, Heslington, York.

- Thompson C, McCaughan D, Cullum N, Sheldon TA, Mulhall A & Thompson DR (2001b) The accessibility of research-based knowledge for nurses in United Kingdom acute care settings. *Journal of Advanced Nursing* **36**, 11-22.
- Thompson C, McCaughan D, Cullum N, Sheldon TA, Mulhall A & Thompson DR (2001c) Research information in nurses' clinical decision-making: what is useful? *Journal of Advanced Nursing* **36**, 376-388.
- Thornley T (2007) Discovering the expert: a grounded theory of registered nurses. In *Faculty of Nursing and Midwifery*. The University of Sydney, Sydney, NSW, Australia.
- Yin RK (2009) *Case study research: Design and methods*, 4th edition edn. Sage Publications, Thousand Oaks, California.
- Young KA (2005) Direct from the source: the value of 'think-aloud' data in understanding learning. *Journal of Educational Enquiry* **6**, 19-33.