FROM THE EDITOR - Jackie Jones

AJAN ENTERS A NEW PHASE

Welcome to the first issue of *AJAN* for 2005. This is an exciting time for *AJAN* as the journal is now available online to more nurses than ever before through their Australian Nursing Federation (ANF) membership as well as through institutional subscription. What a great opportunity for nurses to read and contribute to the many debates and challenges facing nursing. It is also an exciting time for me as this is my first editorial since taking over as Editor. By way of introduction let me give you a potted history.

I am originally from the United Kingdom, and have worked in metropolitan and rural clinical and tertiary contexts in Australia. Since completing my PhD in 1999, I have undertaken a post doctoral fellowship and continue to grow my research portfolio in the areas of health service delivery, aged and acute interfaces and all matters relating to nurses as workers and service providers.

I was very fortunate to have held the first and somewhat unique joint appointment between the ANF South Australian Branch and Flinders University, Adelaide, which blended industrial and professional discourses. The position allowed me to engage in the strategic development of nursing at a state level including nurse practitioner prescribing, recruitment and retention of nurses, care workers in aged care settings and transition to professional practice. I am currently working as a nurse manager in evidence based practice in Queensland.

It will come as no surprise, therefore, that in this new phase of *AJAN* we will be striving to promote an evidence base for practice through scholarly research and critique of contemporary issues including challenging the notion of evidence itself. Sackett et al (2000) remind us that evidence based practice consists of three integrated elements: best research evidence; patient values; and, clinical expertise. Nurses are key decision makers in health care teams and need to make judgements and decisions in an evidence based climate. We need to ensure that best evidence for nursing practice is available and accessible in *AJAN*. We want to build on the direction of leadership offered by Margaret McMillan and Jane Conway our previous Editors, and value the clinical, academic, management, policy and research expertise of nurses. In doing so, we aim to contribute to constructions of nursing and what it might mean to be a nurse. We want to remain relevant to nursing and midwifery and welcome your contributions as reviewers and authors of manuscripts. Ultimately we want to make a contribution that upholds 'patient values' and encourage papers that make visible how nurses can make a difference to our consumers wherever they may be situated.

The tsunami disaster provided a tragic yet timely reminder that we live in a global community and it is hard to escape the magnitude of its ripples. Nurses are working in a global and multigenerational workforce that requires tolerance and mutual respect of the diversity and complexities such a practice context brings. Our guest editorial by Mi Ja Kim considers why a global mindset is needed for international nursing scholarship and health policy and how to develop global nurse leaders.

In the rest of this issue, Stockhausen explores what it is like learning to become a nurse through student's reflections on their clinical experiences. The study confirms that the registered nurse makes a considerable difference to the student's experience. Furthermore, students begin to construct a personal identity of becoming a nurse through a process of developing confidence, confirmation of nursing practices and assimilating knowledge.

Happell and Platania-Phung argue that the mainstreaming of mental health services within the general health care system has increased the level of contact nurses have with people experiencing mental health problems, yet further argue the research evidence suggests they are not confident or competent in meeting the associated needs. These authors go on to describe the prevalence of mental illness within the general health care population and consider some implications for the nursing profession.

Building on this notion of complex behaviour, Poole's paper reports on an evaluation of the response of residential aged care facility staff to the education programme - *Poole's Algorithm: Nursing management of disturbed behaviour in aged care facilities*.

The complexities of providing care are taken up further by Dunn and Schmitz. Their qualitative study explored senior nurses' perceptions of patient's requirements for nursing resources in a major acute care hospital setting and found that at times demands imposed on nursing resources lead to nurses' perceptions of delivering less than ideal care, stress and frustration.

The diverse threads of practice are taken up by Johnson and colleagues who report on their research of how maternal and infant clinical outcomes compare for low risk mothers receiving a partnership caseload model of midwifery care versus standard care, and argue the safety of this practice model.

Smith reports on a serious occupational skin condition affecting many nurses worldwide.

Finally, Elliot and Lazenbatt argue nurses need to be critical readers of grounded theory research, so that they recognise 'quality' research studies and can develop their clinical practice based on sound research findings.

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GUEST EDITORIAL - Mi Ja Kim, PhD, RN, FAAN, Professor and Dean Emeritus, Director, Academy of International Leadership Development, College of Nursing, University of Illinois at Chicago

DEVELOPING A GLOBAL MINDSET FOR NURSING SCHOLARSHIP AND HEALTH POLICY

Few would argue that globalisation has affected many spheres of our life in recent years. Nursing is no exception. In this new 'knowledge worker age' new technologies have transformed most local, regional and national markets into global markets without borders. The universal connectivity that is afforded by these advanced information technologies has benefited nurse scholars worldwide to share their knowledge instantly and conduct international collaborative research effectively.

This globalisation phenomenon has changed the concept of benchmarking of excellence from national to 'world class' (Covey 2004, p.104). However, systematic efforts to develop global leaders and scholars to parallel this transforming world have not been a major focus of many nursing leaders in the world. Nursing needs to develop global leaders, not only for nursing but also for all health professions. This editorial focuses on our urgent need to develop nurse leaders who have a global mindset and who can advance nursing scholarship and health policies worldwide.

'Global mindset' is a convenient catchall phrase that describe competencies such as knowledge, skills, attitudes, and abilities for would-be global leaders (McCall and Hollenbeck 2002, p.31). It includes cultural sensitivity and the ability to deal with cognitive complexity. It was developed through a transformation process encompassing both the cognitive complexity of crossing organisational boundaries and the emotional complexity of dealing with other cultures (Hollenbeck in Mobley and McCall 2001). In nursing, the global mindset is determined by the balance of two factors that have a linear relationship: cultural and business (nursing) complexity (McCall and Hollenbeck 2002).

Expatriate, transnational/global, or 'corporate seagulls' models can be considered for global nursing leadership (McCall and Hollenbeck 2002, p.20). Whichever model is used, one must have the competencies and attributes of a global mindset. Global leaders should be open-minded and flexible in thought and tactics; resilient; resourceful; optimistic; and energetic. Honesty, integrity, and value-added technical or business skills are other assets necessary for global leaders (McCall and Hollenbeck 2002).

Leaders with a global mindset should employ two types of leadership to advance the agenda of nursing research and health policy: effective leadership and adaptive leadership. The core signs of effective leadership are the 'results' that are multiplied by one's attributes (Ulrich et al 1999). Leaders without results are ineffective. Nursing leaders worldwide must provide leadership that produces results in scholarship that benefit the health of people. One such result that signifies the importance of scholarship in the United States of America (USA) is the annual account of faculty research productivity, as represented by the number and amount of externally funded research projects, particularly by the National Institutes of Health (NIH). For example, the top ten nursing schools in the USA that received funding from the NIH during the fiscal year 2003 were: University of California at San Francisco, University of Washington, University of North Carolina Chapel Hill, University of Illinois at Chicago, University of Pennsylvania, University of Pittsburgh, University of Texas Austin, Johns Hopkins University, Yale University, University of Michigan (NINR 2003).

Adaptive leadership (Heifetz and Laurie 1997) challenges 'the way we do business' and helps people distinguish immutable values from historical practices that have become obsolete. Adaptive leaders view patterns of nursing behaviours on the 'balcony' to see or create a context for change, and they view conflicts as surface phenomena that can be used as clues for framing key questions and issues. Adaptive leaders create a 'holding' environment that allows an organization to feel external pressures within a range that it can withstand, and they challenge unproductive norms (p.127).

Developing health policy is akin to having a three legged stool. The first leg of a three-legged stool is using empirical data from clinical research. The study of Aiken et al (2003) is a good example. They showed that the greater the proportion of nurses on staff that have a bachelor degree (BSN), the better the outcome for the patient. They predicted that raising a hospital's share of bedside nurses who have a BSN from 20% to 60%, while keeping the patient-nurse ratio at 4:1, would save four lives per 1,000 surgery patients. After considering total staffing levels, whether a person's surgeon was board-certified, and several other factors, they found that every 10% increase in the proportion of BSNs at a hospital led to a 5% reduction in a person's risk of dying within 30 days of being admitted.

In an earlier study, Aiken et al (2002) also showed how important patient-to-nurse staffing ratio was to patient safety, and such studies eventually led to the development of a California law on staffing ratio.* In a cross-sectional analysis of linked data from 10,184 staff nurses (surveyed 1998-99), the authors showed that each additional patient per nurse was associated with a 7% increase in the likelihood of dying within 30 days of admission in surgical patients and a 7% increase in the odds of failure-to-rescue, after adjusting for patient and hospital characteristics. As the nation's first law requiring hospitals to maintain a set number of nurses to patients at all times, the California law took effect in January 2004. The law requires that most medical wards maintain one nurse to six adult patients, and this will drop to one to five next year. The ratio is one to four for children wards, and one to two for the intensive care unit (Appleby 2004).

Such enactment of health law demonstrates, in part, political activism by nurses, which is the second leg of the stool for health policy development. Today's global nurse leaders should emulate Florence Nightingale, who was a consummate politician and who understood how to influence the British parliament to allocate funds to reform military hospitals and substantially improve the health of and sanitary conditions for the troops.

The third leg of the stool for health policy development is the evaluation of the policy established. Practitioners and researchers alike should monitor the implementation of the policy and measure its effectiveness.

Developing global nurse leaders with a global mindset is essential for advancing nursing scholarship and health policy worldwide. Leaders may begin to develop a global mindset by *undoing* unproductive old habits and norms, and *enveloping* or growing our global knowledge and skills in accordance with the etymology of the word *develop* (from the old French word *des*, meaning *'undo'* and *voloper*, meaning *'to wrap up or to envelope'*). A global mindset should be coupled with efforts to master the interplay of complexities between the culture of nursing and the business of nursing. Such an undertaking is an evolving globalisation journey. As global leaders with global mindsets, let us enjoy the journey, neither as the pessimist who complains about the wind, nor as the optimist who expects the winds to change, but as the realist who adjusts the sail (William Arthur Ward).

* *At the time of AJAN going to press, the Governor of California, Arnold Schwarzenegger had issued an executive order effectively suspending the ratios in hospital emergency rooms, and postponing for at least three years, the introduction of improved ratios in medical, post-surgical, and mixed medical wards. For more information visit the California Nurses Association website: www.calnurse.org.*

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LEARNING TO BECOME A NURSE: STUDENTS' REFLECTIONS ON THEIR CLINICAL EXPERIENCES

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ABSTRACT

Objective:

To expose the significant events undergraduate student nurses reflect on during clinical experiences as they learn to become nurses.

Design:

A qualitative study using reflective instruments of unstructured debriefing sessions and journal writing.

Setting:

Conducted in a tertiary hospital in South-eastern Queensland, Australia.

Subjects:

Forty voluntarily consenting students were involved.

Results:

The findings of this study identify that students' interpretation of, and learning in the clinical context is influenced by: an interplay between the patient, registered nurse (RN) and the student's construction of themself as a nurse. Significant to the study and not previously identified is the way students enter the emotive life-world of the patient's experience. The study confirms that the RN makes a considerable difference to the student's experience. Furthermore, students begin to construct a personal identity of becoming a nurse through a process of developing confidence, confirmation of nursing practices and assimilating knowledge.

Conclusion:

Insights into what influences students learning in the clinical setting, how they interpret events and begin to build a repertoire of reflective exemplars provides clinical staff and educators with valuable information to design meaningful clinical learning experiences that will assist students to become nurses.

INTRODUCTION

The advent of tertiary education for nurses in Australia espoused new models of re-conceptualising learning in the workplace. Students now enter the clinical environment endowed as a learner but engaged in the practice of the profession. When reviewing Australian publications regarding clinical education many of these inevitably commence by mentioning the transfer of nursing education from a hospital-based apprenticeship system to the tertiary sector.

Considering this transfer occurred over 20 years ago it is somewhat astounding that we are still coming to terms with it and feel it necessary to compare the two types of education. We acknowledge the education of nurses is different now. We know clinical education is where students develop real world experience of nursing, observing and participating in and learning the language and idiosyncrasies of the profession. We know students spend less time in the practice setting, and we know there are numerous, clinical education models operating that offer various types of assistance and supervision to students (Australian National Review of Nursing Education 2002). Surprisingly, we have little information about how students learn to become nurses during their clinical experiences.

Alarmingly, research in Australia and overseas about students' responses to their clinical learning experiences and perceptions of their clinical encounters have centred on feelings and frustrations and tended to focus on exposed negative aspects. These have ranged from: not being recognised as part of the profession or being transient (Melia 1982; Nolan 1998); a need to feel welcomed and accepted; tensions caused by the existence of a dichotomy between what is taught and what is practiced (Yong 1996; Shin 2000); feeling they need to prove themselves as nurses (Rummel 1996); dealing with stressors (Elliott 2002); coping with the experience by 'playing the game' or doing only what is necessary to complete the clinical assignment (Chapman and Orb

2001); and, marginalisation and powerlessness (McLeland 2002). Indeed the experience has even been viewed as creating a need to survive (Nolan 1998).

Some research has provided insight into student reflections on their development as a nurse. These studies have identified that the RN or clinical nurse is a powerful influence on student's interpretations of their development (Chow and Suen 2001; Ohrling and Hallberg 2001; Rummel 1996; Yong 1996; Hart and Rotem 1994; Powell et al 1992; Melia 1982). A scant body of research provides an overview of students' other constructs that they perceive influence their clinical experiences (Spouse 2001a, 2001b, 2003; Stockhausen 2000; Holland 1999; Bell et al 1998; Nolan 1998; Rummel 1996; Yong 1996).

However, given the time that nurse education has been in the tertiary sector in Australia, there remains paucity in the literature that serves to highlight how students learn to become nurses. It is generally acknowledged that the nurse learner enters the practice setting armed with knowledge of relevant theories of the sciences and nursing. It is the actual immersion in the practice world of nursing and how students respond to these events that remains somewhat mysterious and obscure (Edmond 2001; Spouse 2001a). Practical experiences in professional education provide students with real life events that enable them to develop, apply and evaluate their own understanding of concepts being studied (Nolan 1998). The learning process involves reflection and allows students the opportunity to build a range of powerful exemplars (concrete examples) gained from experience (Schon 1987; Boud et al 1985; Benner 1984; Kolb 1984). This paper discusses a qualitative study conducted to expose the significant events student nurses reflect on as they learn to become nurses.

THE STUDY

Method

The intention of this qualitative study was to discover and understand new insights into taken for granted experiences students reflect on during their clinical placements. In particular, the students provide an account of their experiences and how they create, modify and interpret the clinical world they interact with during structured clinical placements (Morse and Field 1996; Miles and Huberman 1994; Denzin and Lincoln 1994; Diekelmann 1992). In this paper the students' 'voices' are given an auditorium to be heard. Qualitative research strategies provide the means to examine the subjective interpretations of these voices during the students' clinical experiences (Holloway and Wheeler 2002). To increase the 'audibility' of the voices this research used the same tools that the literature identifies in developing reflective practice: journal writing and group debriefing. These methods are best suited to address the research question: What do students reflect on as they learn to become nurses?

Participants

Following detailed submissions, ethical approval for the study was granted from the tertiary hospital where the study was conducted and the students' residence of study. All students in the study were enrolled in a three-year bachelor of nursing program conducted in south-eastern Queensland, Australia. Five debriefing groups each consisting of eight voluntarily consenting students (40) participated in the study. All were given the opportunity to withdraw at anytime and assured that involvement in the study would not affect their clinical grades. Eighteen students from within the five debriefing groups consented to submit their journals for analysis.

Data collection

Data was gathered during students' organised clinical placements, totalling a period of ten weeks. Reflective group debriefings and the student's journals were used to access interpretations of contextual events through the eyes of the participants. These methods were deemed unobtrusive for students, as reflection was a core development competency within the curriculum. Students were familiar with debriefing for about an hour at the end of most clinical days and journal writing each day.

The selected debriefing forums allowed students to share reflections regarding feelings, thoughts and perceptions, exchange ideas, consider other points of view, draw conclusions and make comparisons from their clinical experiences (Horsfall 1990; Watts and Ebutt 1987; Boud et al 1985). This was made possible by the researcher negotiating with the students at the commencement of the research, confidentiality among group members and permitting equity of time for each participant during discussions. The researcher's role became one of managing group dynamics to facilitate reflective discussion among all participants. The debriefings were unstructured but encouraged each participant to raise issues of importance to them and give an account of their reflection on events of the day. Thirteen debrief sessions were audiotape recorded, permitting monitoring of discussion. Transcripts were then generated.

According to Hammersley and Atkinson (1983, p.165) journals are 'not just a matter of gratuitous introspection or narcissistic self absorption. Feelings, anxieties, comfort, shock or revulsion are of analytical significance'. Each journal potentially became an instrument to expose and reconstruct an experience with both objective (facts) and subjective (feelings and interpretation) dimensions of the clinical experience (Landeen et al 1995; Holly 1987). Students were instructed to write at will and no structure was imposed thus facilitating free expression. At the end of the clinical rotation students submitted their journals for analysis. The journals were photocopied then returned to the student.

Rigour

Dewey's (1933, p.29) fundamental principles of reflection; open-mindedness, responsibility and wholeheartedness were adopted to determine rigour in this research study. Authors working in the qualitative research arena have developed similar criteria for determining rigour (Guba and Lincoln 2002; Roberts and Taylor 1998; Denzin and Lincoln 1994; Sandelowski 1994).

Review of the data

Burgess (1984) implies that the analysis of the data is a product of the inquiry. Reflection aids the researcher's analysis and interpretation of the participants' accounts. Latent content analysis and the development of conceptual categories therefore facilitate the presentation of the data. Cohen and Manion (1994, p.55) suggest that the analysis of qualitative data involves 'collecting, classifying, ordering, synthesising, evaluating and interpreting'. Content analysis is defined as 'a multipurpose research method developed specifically for investigating a broad spectrum of problems in which the content of communication serves as the basis of inference' (Cohen and Manion 1994, p.55).

Preparation for analysis and initial interpretation consisted of listening then reading transcripts from the debriefing sessions and the journals. From word-processed files, hard copies were generated, allowing the researcher to read, reflect and develop ideas through reading the text. Reflecting further on the text, the voices from the participants became audible (Van Manen 1989). Content analysis from the transcripts was undertaken to identify key descriptors that helped examine what was occurring at the time and respond to the research question. On combing the texts particular notation of key words, phrases, sentences or paragraphs became exposed, extracted and then were drawn together into similar threads (Tesch 1990).

Several of these segments of text were grouped into common headings representing a theme. The themes were then translated into a category. The configuration of a major category with supporting themes was identified. The data revealed the significant category: Learning to become a nurse.

The category is supported by three themes: entering the world of the patient; clinicians (RNs) making a difference, and; constructing an identity as a nurse.

The third theme, constructing an identity as a nurse, was further supported by three sub-themes: developing confidence; confirmation; and, assimilating the ways of knowing.

The students, who previously volunteered from those who submitted their journals and who were involved in the group debriefings, were invited to review and reflect on the revealed data. Besides transcripts housing an indication of their development towards becoming a nurse, students stated that the revealed category and themes presented an accurate record of their accounts. This process further facilitated the students gaining insight into their practices that Bergum (1991) suggests may not have occurred outside the research context.

FINDINGS AND DISCUSSION

Learning to become a nurse

Clinical experience for students is a time to enter the work world of nursing and caring. To function in the clinical setting students require a firm grounding in a range of anatomical, physiological, sociological, psychological, pharmacological and nursing interpretations and interventions. Moreover, they must somehow acquire an understanding of the patient and start to develop a professional identity. As students learn to become nurses there are elements of their educational process that cannot be truly taught or explicated, only experienced. For students, contextual learning occurs as they are immersed in the clinical experience with patients.

Entering the world of the patient

The study revealed that as students enter the life world of the patient, they learn through the patient's experience. Highlighted within the data, students develop a sense of the patient, exposing an emotive element that accompanies the student's learning.

In this study students acquired feelings of empathy with and for the patient through reacting to and deciphering emotive non-verbal cues from the patient as they care for them. The following statement, made during a debriefing session, indicates how the student enters the patient's world:

> *He had an inch deep hole on his sacrum and the poor man was in so much pain. I was trying to dress it. I tried so hard not to hurt him but every time you touched him he was screaming; so was I on the inside!*

And a journal entry:

> *I watched a Dr do a needle biopsy on a patient's neck today. The needle looked awfully close to the trachea and it made my stomach turn as the needle was pushed and pulled randomly into a lump on the patient's neck. I think I squeezed the patient's hand almost as hard as he squeezed mine (Student's highlighting).*

In sensing the non-verbal cues and squeezing the patient's hand, reciprocity of one another's presence and united understanding of the event occurs. As students learn about nursing the patient their authentic encounters with the patient have a potent influence on their transition to becoming a nurse. Patient interactions 'teach' students the humility of caring for another human through human-to-human contact. In this study, students encountered empathy for patients in ways, which written accounts (book learning) or simulations may not truly capture, express or teach (Rolfe 2003). In the following debriefing segment a student reflects on the significance of 'being with' the patient:

One highlight for me was when I was able to be with one of my patients who is in the last stages of COAD [chronic obstructive airway disease]: dying. Even performing the smallest task for him, such as a shower, was a real effort. Just sitting beside him and being with him allowed me to gain some insight into his illness and develop a kind of bond with him. I knew he appreciated it so much. I will never forget how special those three days with him were.

Bevis and Watson (1989, p.11) claim that as nurses or in this case students, enter an experience with a patient, it promotes 'human interaction with learning intentionality'; students connect with the patient. The students in this study appeared 'to connect' in a sensitive way with the patient's experience responding to and interpreting a collection of signals from the patient that inform their nursing actions. Benner (1984) indicates that this beginning cue-recognition informs not only the initial event but potentially informs future practice situations. Carper (1978) further maintains that cue-recognition and interpretation with patients is a core skill of nursing for developing empathy.

Not all aspects of learning can be taught, are tangible or visible. As students interpret cues they enter the world of the patient and vicariously live through events with the patient. Potentially, learning maybe realised in the duality of the student's reflective interpretation of experiencing events with the patient.

RN clinicians make a difference

In their pursuit to become nurses, the study participants indicated how they perceived the RN makes a difference to their learning experiences. The students share and develop their everyday nursing practices with the RN. As they do they construct their own schemata of admirable qualities the RN displays which they perceive facilitates and in some cases hinders, learning. The findings substantiate that the RN who makes them feel welcome through a friendly and approachable manner initiates a workable relationship. Being acknowledged as a learner held particular importance to the students as indicated in a comment made at a debriefing:

I felt really comfortable with my RN and she put me at ease too. She didn't make me feel like I was going to be an extra pair of hands. She made it obvious right from the start that she was really willing to help me out. She asked me where I was up to in my studies, what I wanted to do, what my learning goals were. She would always check whether I understood something or not, so it was great!

Students identified a number of unique qualities of the RN that have not been previously referred to. In this study students appreciated RNs who exposed them to 'tricks of the trade'.

I have picked up little tips from the RN, things that she does, like organising her day, that I've never come across before or read about.

The students also indicated that RNs, who explained their rationale for their clinical actions and talked to students about how they made clinical decisions, helped them grasp complexities in situations. Hindrances to learning were identified as organisational constraints such as decreased staffing levels. The following debriefing statement highlights this point.

The ward was extremely busy today with lots of theatre cases. I didn't see much of my RN and it was difficult not to be seen as an extra pair of hands!

Unlike previous studies where students have felt unwelcome or threatened in the clinical environment (Elliott 2002) the overwhelming majority of comments voiced and recorded by students indicated positive regard for the RN. In some instances students in this study recognised the many constraints the RN faced, that their presence may indeed cause the RN stress and explored ways that could maximise the RN's knowledge as well as facilitate their own learning.

Throughout this study, as students reflected on their observations they attempted to make descriptions of the RN, highlighting features of skilful performance. In particular, students used statements such as:

…the RN, could pick up that something was not quite right with this gentleman but I was unable to detect any significant change in him.

and:

The RN showed compassion by touching the patient; she knelt down so she was at the same level as him, she spoke soothingly, her whole manner said 'I care'. She gave the relatives no false hope, but was gentle in telling them what was happening and made it clear she was available to talk to whenever they needed her. After leaving the room she took the time to explain to me what was happening and how the nurses try to maintain the patient while the family are supported so the patient can die with dignity.

For this group of students the RNs exposed their experiences, demonstrating compassion, and insights into becoming a nurse.

Constructing an identity as a nurse

As students learn nursing amidst the realities of the practice setting, they also begin to construct a personal and professional identity of themselves: as nurses. In this study, students constructed their meaning of becoming a nurse through developing confidence, confirming their nursing practices and assimilating theoretical and clinical knowledge.

Developing confidence

Throughout the study the students' interpretations of personal accomplishment echoed with sentiments of increased confidence and competence. Students identified that confidence developed over time and through opportunities to practice skills. A student illustrates this point:

> *I felt that I'd definitely improved; I didn't have to think about everything I was doing. Now when I do aseptic technique I can talk to the patient as well as do the dressing. The first couple of times doing it, you can't think of anything else but the wound because you're concentrating on your sterile field and technique. Before I sometimes forgot there was a patient there. So just going over it and practicing I feel more confident.*

Revealed in this study is the way in which students require proficiency and confidence with their psychomotor skills that then further frees them to acknowledge and incorporate the patient or other dimensions of the activity into their practice. Descriptive statements reflected the achievement of doing what it is nurses do and being part of the totality of nursing. Common statements in journals and debriefings were procedural in nature and often appeared unreflective. The following journal extract was typical:

> *Made beds. Monitored strict fluid-balance and documented in the patient's chart. Several urinalyses. Assisted with showers. Performed and recorded observations (TPR and BP), chatted to patients getting to know them better. Was really happy with all this!*

In the very act of recording such activities the student presented to themselves and the reader their sense of achievement in being able to undertake the activities of nursing. Viewed in this light, activities such as making a bed or showering a patient were not just 'basic' nursing activities but took on new meaning when considered from a student's achievement perspective.

Confirming

As students developed confidence, their sense of identity increased. Engagement with the activities of nursing confirmed their practice as a nurse:

> *The RN suggested we do a bladder irrigation and that really helped the man's discomfort. I did two dressings. I hadn't done a single dressing before and everything just worked so well I felt like I was doing something. I felt like I was of use, like a real nurse, I was doing a normal day like the staff.*

The high visibility of and successful undertaking of psychomotor skills confirmed for this group of students that they were developing an identity as a nurse because they considered they were doing what it is a nurse does.

Assimilating the ways of knowing

Making comparisons and discriminations of practices further aided the students in this study to construct their sense of identity. Academic and practical knowledge were bought into sharp focus as this group of students viewed how one could influence the other. They could actually see how the knowledge is used. The utility of exploring knowledge in action is exemplified in the following journal extract:

> *I introduced myself to the patient and asked him to put the thermometer under his tongue. He took it from me and put it in his mouth. I got two strange readings. I notice that he did not really put it in his mouth properly. When I met up with my assigned RN she suggested I read about the patient's condition and then consider the temperature reading. I discovered the reason why the gentleman did not put the thermometer in his mouth properly was because he had no tongue! I realised that I will never do observations on a patient without prior knowledge of their condition nor will I take it for granted that most people can have an oral temperature done.*

When learning is embedded in the context, then its uses are more apparent to students. The integration of theoretical and practical knowledge would also appear to provide students with the beginnings of exemplar cases. Over time as students build a repertoire of situation-specific knowledge they assimilate the ways of knowing nursing. The findings of this study suggest that as students construct an identity of themselves as a nurse, their confidence, confirmation of practice and assimilated ways of knowing influence one another.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

Viewed holistically, learning to become a nurse is principled on contextual encounters with the patient and the RN and an opportunity to practice a range of nursing activities that facilitates the construction of an identity as a nurse. Entering the world of the patient engages students in potent encounters with patients, helping students to read and interpret patient cues in order to understand the experience of the patient. While these aspects of becoming a nurse are personal and patient-orientated, RN clinicians make a difference and also help students make the transition to become a nurse.

The student's experience is strongly influenced by their encounters with the RN. In their accounts, students respected the RN as an experienced practitioner and held this experience in high esteem. Students identify that they appreciate RNs who help them gain insight into patient and ward-management. In these moments the RN makes a difference to student's learning as they illuminate the practice of nursing, including detection of subtle patient changes, dimensions of compassion and the impact of extraneous workloads.

As RNs share of themselves and their experiences, the student begins to develop an appreciation of experiential, clinical knowledge informing practice. These findings support those of Nolan (1998) but extend her research as it could be considered that this study identifies that the student begins to consider some elements of the artistry or skill performance of RNs' practices.

Students participating in the activities of nursing in tandem with RNs all encouraged to rehearse the range of activities that assists them to become a nurse. As they practice to become nurses they begin to construct a personal identity of themselves, as nurses. Identity, as a nurse, is shaped through a process of developing confidence, confirmation by others of movement towards being and doing what nurses do and assimilating theoretical and practical knowledge.

The bi-dimensional nature of confidence and confirmation is not experienced separately; each influences the other. As student's confidence with a range of nursing activities develops they confirm to themselves and others that they are becoming a nurse. Much of the 'doing' of 'basic' nursing involves unseen activities and emotions. The 'doing' should be seen as the work of students learning in action, as they become nurses. Nolan (1998, p.626) suggests; 'learning by doing is the crux of clinical placement, as problems are placed within context and critical thinking can be developed'.

Each encounter with patients or RNs contributes to reinforcing and confirming the student's identity as a nurse. In turn, reinforcement facilitates the development of confidence through the opportunities to engage in a range of activities and often in activities in repeated practice (Bell et al 1998). Students in this study also discovered the integration of ways of knowing as they come to experience, construct and reconstruct the ways of becoming a nurse and reflect on this.

The influential forces that students reflect on provide us with a powerful message. It is evident that reflection provides a focus for students as they work through clinical situations that contribute to their professional socialisation and identity. Reflecting on the day-to-day events through conversations with themselves in their journals and with their peers during debriefings, offers students an avenue to explore ways of becoming a nurse and the emotive elements that accompany their practice development.

The primary implication of this study is clear. In the twenty years that nurse education has been in the tertiary sector in Australia, we are still discovering what students reflect on and how they interpret and consider what is important to them from their clinical experiences. As clinical educators we are challenged to fully expose students' reflections and build upon these to facilitate students' learning and progression to become nurses.

The findings of this study also indicate that the encounters students have with patients and the patient's influence on student learning require further investigation. This is an aspect of nursing education that has received little attention. While the patient is at the crux of the experience, educators and clinicians alike have investigated little into understanding the patient's role as an experience broker in clinical teaching and learning events.

It can also be speculated that the time has also come to investigate the learning importance and the potential inherent in, the 'everydayness' of nursing. For students repeated experiences offer confidence building and confirmation of practice. However, we also need to assist students to develop strategies to, not only, confidently question routine practices but also identify moments of exemplary RN practice and use this information to inform nursing practices. Indeed, exposure to and of the hidden teaching strengths and artistry of practice of RNs as they teach in the complexities of practice, require further exploration (Ohrling and Hallberg 2001).

While the likes of Benner (1984) identified difficulties in revealing this process, perhaps the time has come to investigate further. This should not be limited to just preceptor programs but for the RN to discover what it is they themselves don't realise about their taken-for-granted knowledge and practices and how they can influence student learning as they become nurses.

CONCLUSION

This study provides further insights into the way students construct meaning from their clinical experiences and learn to become nurses. Moreover this study indicates that as students learn to become nurses their experiences are not viewed negatively as some previous research would have us believe. Active engagement of students with patients, peers and staff in clinical practice, the development of a range of clinical skills and the ability to reflect on the alliance between theory and practice in real settings, engages the student in becoming a nurse.

The exposure of students to RNs who support and acknowledge them as a learner and who begin to expose their artistry in practice needs to be explored further and developed to highlight the significance to educative endeavours as students learn to become nurses. Developing student's skill to reflect on all clinical experiences and exploiting this for the development of initial and continued clinical competence is critical if the goal of learning how to be a nurse is to be successful.

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AN EVALUATION OF THE RESPONSE TO POOLE'S ALGORITHM EDUCATION PROGRAMME BY AGED CARE FACILITY STAFF

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ABSTRACT

Aim:

To evaluate the response of residential aged care facility staff to the education programme - *Poole's Algorithm: Nursing management of disturbed behaviour in aged care facilities*.

Design:

Descriptive study, aged care setting.

Method:

Following offers to all facilities in a large area health service, 104 senior staff took the opportunity to participate in train-the-trainer programs and then returned pre and post knowledge evaluation questionnaires for 190 of their own staff that they had trained, using the program, over a three month period. Thirty six of those trainers then shared their views of the usability and effectiveness of the program in focus group interviews.

Results:

The questionnaire analysis showed statistically significant improvements in overall knowledge for the trainers with 19.2% correct answers pre education and 91.3% correct afterwards, a difference of 71.1%. Overall, the staff trained by the trainers improved from 12.6% correct to 59.5% post education, a difference of 46.8%. In particular, the trainers' recognition of delirium as a cause for disturbed behaviour improved from 39.4% to 97.15% and the staff from 24.7% to 75.2%.

Conclusions:

Concern was raised about the poor understanding of mental health problems such as personality and anxiety disorders. Analysis and coding of the focus group transcriptions showed improvements in attitudes and practice. Recommendations are made for the instigation of ongoing train-the-trainer sessions using this program and the replication of this study in the acute and community sectors.

INTRODUCTION

The care of older people who exhibit disturbed behaviour, particularly in the form of aggression, presents well-documented difficulties. The major causes are delirium, depression and/or dementia, however, these are not well understood by nurses. A special education program has been developed, based on an algorithm detailing assessment and management priorities for these problems, followed by instructions for general care and support. The authors proposed that instigating this program could positively enhance practice and attitudes in this complex area. Train-the-trainer sessions were designed for senior aged care facility staff who were then asked to train their own staff. Pre and post knowledge questionnaires plus follow up focus group interviews held three months later, enabled evaluation of the effectiveness of this approach.

LITERATURE REVIEW

Whilst population projections show that we have an increasingly ageing population, care of this group is complicated by pathological changes in organ systems. These cause changes in symptom presentation, making diagnosis of disease difficult, particularly for inexperienced practitioners (McLennan 1999; Kane et al 1999).

Confusion is a common sign of illness in older people and may be mistaken as purely a symptom of a dementing illness. The causes of confusion can be grouped under delirium, depression or other mental illnesses, or dementia (Poole 2003). Delirium is a medical emergency and is known to result in increased falls, incontinence and pressure sores, as well an increased length of stay in acute care, decreased functional levels and increased mortality (Maher and Almeida 2002). The early recognition and treatment (or reversal) of delirium and depression in older people is of great importance, not only for survival and quality of life issues but also for efficient use of resources (Jorm 2002).

People with Alzheimer's disease, one of the most common causes of dementia, are likely to have increased cognitive impairment above and beyond that caused by the dementing processes, due to the effects of co-morbidities or medications (Doraiswamy et al 2002). Therefore, people with dementia need expert management of their medical conditions to minimise their cognitive difficulties.

Older people who are confused can be very difficult to manage and nurses 'bear the brunt' of care (Poole and Mott 2003). A prospective study of 797 patients aged 70 years and older in acute care found that nurses were only able to identify delirium in 19% of their observations (Inouye et al 2001). This does not translate well to aged care facilities (such as nursing homes and hostels) where the burden of care is increased by low levels of staff with professional health qualifications. Depression and other mental health disorders are also known to be poorly recognised. In a random sample survey of aged care facilities across Australia, using the modified Geriatric Depression Scale, it was found that 51% of people in 'high care' or nursing home type accommodation, and 30.2% of people in 'low care' or hostel type accommodation, had some level of depression (The Hammond Care Group 2002).

Calls for improved education

Authors have been calling for improved education about delirium and depression in older people (eg Poole and Mott 2003: Maher and Almeida 2002; Moran and Dorevitch 2001; Inouye et al 2001; Eden and Foremen 1996). Particular concern has been expressed about the lack of attention paid to the needs of people with mental health problems in nursing homes and recommendations have been made for better funding for education (Snowdon 2001; Arie 2001; Macri and Onley 2001).

Three education programs based on a specific algorithm have been developed (Poole 2000a; Poole 2000b; Poole 2001). These acknowledge the complexity of the interface of delirium, depression or other mental disorders and dementia, and reflect the specific needs of people in aged care facilities, acute care and community areas (Poole 2003). The programs provide definitions, descriptions of overall approaches, common clinical signs and causes, plus nursing assessment and management strategies. These are placed in order of priority (starting with aggression management), with an outline of ways to develop consistent plans for systems of care and support. Presented as colour coded lecture notes/resource booklets, each has a matching large poster which provides a summary of the information to facilitate easy reinforcement and referral.

AIM

A descriptive study was initiated to examine the response of aged care facility staff to the education program. The aim was to seek evidence of change in knowledge and care practices in staff who had participated in the program. A train-the-trainer format was used plus pre and post training knowledge questionnaires and focus group interviews (Rajacich et al 2001; Langer 1999; Edmondson and Williamson 1998; Trovillion et al 1998).

METHOD

Following permission to perform the study by the hospital human research ethics committee, informed participation was facilitated by giving all potential participants an information letter with appropriate explanations. This included a consent form that explained that this was a voluntary study in which all subjects would be anonymous and could withdraw at any time. Comparative analysis of the questionnaire responses was planned by the use of identifying pseudonyms, chosen by the subjects themselves, and known only to them. This allowed matched analysis and the participants could also privately judge their own progress. The consent forms were stored separately from the coded data in a locked unit in the aged care department.

A half-day train-the-trainer session for two key education personnel was offered to all residential aged care facilities in a large area health service. Training dates and venues were offered in nine locations and a set lesson plan was provided. The trainers were asked to return to their facilities to set up a plan for training their staff within the following three months.

EVALUATION

Knowledge questionnaires that had been developed in consultation with a psychogeriatrician and tested on comparable groups, were completed by the trainers before and after each training session. Trainers were asked to administer the same questionnaires to all staff before starting their training and afterwards to those who had completed all the components of the algorithm. To evaluate the trainers' retention of knowledge, they were asked to complete the same questionnaires at the start of the focus groups, three months later.

The questionnaires were refined to two questions seeking demographic information (designation and qualifications) and two about knowledge. One of the latter was intended to gauge the staff awareness of the importance for personal safety when confronted by an aggressive older person. *'If a person becomes aggressive, what is the first thing you should think about?'* - an acceptable answer was considered to be the identification of the staff members' own safety needs, even if it was part of an answer that identified the safety needs of others.

The other question aimed to assess the level of basic understanding of the causes of disturbed behaviour in older people. Participants were asked to choose three of the most common causes from a given list of six terms: *personality disorder, anxiety disorder, delirium, dementia, senility, depression* - an answer was considered correct if the participants chose delirium, depression and dementia. It has been shown that about 80% of residents in nursing homes have dementia, 30-50% have depression, 6-7% have delirium whilst 3.5% have an anxiety or panic disorder (Snowdon 2001).

Of the incorrect answers, whilst anxiety is often displayed as a result of cognitive deficits and/or illness, an anxiety disorder is categorised by the American Psychiatric Association (1994, p.393) as 'at least six months of persistent and excessive anxiety or worry'. If a staff member initially considered that a resident's disturbed behaviour was only due to an anxiety disorder, then it is unlikely that they would instigate a timely medical assessment.

Personality disorders are said to be long standing patterns of behaviour that cause suffering and are thought to decrease with age (Gelder et al 1999), and were not considered in Snowdon's survey. The term senility refers to 'the sum of the physical and mental changes occurring in advanced life' (Stedman 1976, p.1270) and is often loosely used in a discriminating way without due recognition of the confounding effects of illness or disability. Therefore, senility was not considered to be a cause of disturbed behaviour in itself.

The data obtained in the knowledge tests were analysed by the calculation of frequencies, percentages and probabilities.

Trainers were asked to attend a focus group three months after the initial training, to report on their efforts and to bring back their completed staff questionnaires for collation. Using a tape recorder, the researchers asked the group a set of questions and encouraged discussion. Further training and another education package supplying extra information about depression was offered to the participants at this time, as an encouragement to attend the focus group beyond the possible desire to only express positive outcomes.

RESULTS

Participants' characteristics

One hundred and four participants (the trainers) attended the train-the-trainer sessions from 60 facilities out of the possible 130 in the area health service (46%) (table 1). All spoke good English. Thirty six trainers from 29 of those 60 facilities (48%) then returned to attend the focus groups. Of the original trainers, 47% held general nursing certificates, 12.8% held nursing degrees, 28.2% held postgraduate diplomas or masters degrees in related health fields and 7.7% held TAFE aged care certificates whilst 4.3% held other non health qualifications. This represented a group of trainers with a substantial level of health knowledge and the potential to understand the material offered in the training sessions.

Table 1: Trainer-the-trainer and focus group participants

	Train-the-trainer		Focus groups	
	Number	**%**	**Number**	**%**
Directors of nursing	8	7.7	3	8.3
Deputy directors of nursing	18	17.3	4	11.1
Directors of care	3	2.9	-	-
Registered nurses (RN)	45	43.3	16	44.4
Enrolled nurses (EN)	2	1.9	-	-
Diversional therapists (DT)	2	1.9	1	2.8
Personal care assistants (PCA) or assistants in nursing (AIN)	5	4.8	1	2.8
Others (eg. allied health, managers)	21	20.2	11	30.6
Total	**104**	**100**	**36**	**100**

Table 2: Staff trained by the trainers

	Number	%
Registered nurses	63	33.2
Enrolled nurses	6	3.2
Diversional therapists	8	4.2
Personal care assistants (PCA) or assistants in nursing (AIN)	104	54.7
Others (eg kitchen or cleaning staff)	9	4.7
Total	**190**	**100**

One hundred and ninety staff then completed the educational sessions presented by the trainers and completed the pre and post test questionnaires (table 2). Of these, the RNs held nursing qualifications (33.2%), 46% of the other staff held TAFE qualifications in health

Table 3: Trainers pre and post knowledge test results -
Opinions of the three major causes of disturbed behaviour from the given list (%) n=104

	Pre-test %	Post-test %	Difference %	* Chi-square with 1 df	p value	95% CI of difference
Delirium, depression and dementia	19.2	91.3	71.1	73.01	<0.001	63.5 - 80.7
Delirium	39.4	97.1	57.7	58.02	<0.001	43.6 - 71.8
Depression	78.8	100.0	21.2	20.05	<0.001	71.0 - 86.7
Dementia	90.4	98.1	7.7	4.08	<0.043	1.3 - 14.1
Personality disorders	17.3	0.0	17.3	84.01	<0.001	10.0 - 24.6
Anxiety disorder	62.5	8.7	53.9	54.02	<0.001	44.3 - 63.4
Senility	10.6	0.0	10.6	9.09	<0.003	4.7 - 16.5

* McNemar's Test

related fields and 4.3% held degrees in non health related fields. This left 16.5% of staff without any formal health qualifications at all. The trainers noted that many of their staff also had English language difficulties. Therefore, there was a significant potential for difficulties in understanding the educational material in relation to medical terms and care planning implications.

KNOWLEDGE ANALYSIS AND DISCUSSION

Trainers' results

Overall, there was a statistically significant improvement in the trainer's responses to the question about the causes of disturbed behaviour. Before taking part in the education program only 19.2% of the trainers indicated that, from the given list, the three most common causes of disturbed behaviour in their facilities were delirium, depression and dementia. Following the training this improved to 91.3% (x^2=71.1, 1 df, p<0.001) a difference of 71.1% (95% CI 43.6-71.8%) (see table 3).

There was also a statistically significant improvement in the recognition of the positive or negative importance of each specific heading. It is particularly noteworthy that recognition of delirium improved whilst personality disorders and senility were both dismissed altogether after the training. However, although notation of anxiety disorder had a statistically significant decrease, it was not erased altogether. (See table 3)

Three months later, 36 of the 104 trainers returned to focus group interviews. Knowledge questionnaire results for these 36 trainers showed that 89% had correctly identified the three major causes of disturbed behaviour immediately after the initial training. However, only 86% had retained that knowledge correctly. Although this was not statistically significant, it showed that the trainers did have some knowledge deficits which might then have negatively affected the training that they provided for their staff. The major point of disagreement appeared to be from the trainers (11%) who maintained the view that anxiety disorders were a major cause of disturbed behaviour in their residents. This then affected their responses to delirium, depression and dementia, although none of those results were statistically significant.

The recognition of the primary need to address safety issues before conjecture about the cause of aggression, showed a statistically significant improvement in the trainers' responses from 32.7% to 81.7% in the pre and post test questionnaires (x^2=45.45, 1 df, p<0.001). However, the focus group questionnaires showed that the trainers had not maintained this knowledge and had slipped from 83% to 67%, a difference of 16%, which although not statistically significant at the 0.05 level, may have been a reflection of the small sample size (x^2=3.13, 1 df, p=0.08).

Staff results

Despite the deficiencies created by the trainer's less-than-perfect knowledge, as well as their lapses at three months, together with the language difficulties and constrained educational standards of the PCAs and AINs, there was a positive response to the education program. Overall, there was a statistically significant improvement in the percentage of staff who recognised the three major causes of disturbed behaviour in older people (x^2=72.37, 1 df, p<0.001) (see table 4).

In considering the individual parts of each response, it is of concern that only 24.7% of staff chose delirium at all in the pre knowledge tests, but encouraging that that improved to 75.2% after the education. Recognition of depression also had a statistically significant improvement, whilst dementia was well recognised both before and after the education (see table 4).

Concern must be raised by the percentage of staff who initially claimed that the less common disorders were major causes of disturbed behaviour, that is, personality disorders (25.8%) and anxiety disorders (64.7%). Whilst these claims then had a statistically significant reduction after the education, the ideas were not totally eradicated. The support for 'senility' as a cause for disturbed behaviour is alarming (see table 4).

**Table 4: Aged care facility staff pre and post knowledge test results:
Breakdown of the opinions of the three major causes of disturbed behaviour from the given list (%) n = 190**

	Pre-test %	Post-test %	Difference % with 1 df	* Chi-square	p value difference	95% CI of
Delirium	24.7	75.2	50.5	80.58	<0 001	46.3 - 58.8
Depression	78.4	89.5	11.1	10.81	<0.001	5.0 - 17.1
Dementia	91.6	91.1	0.5	0	-	-
Personality disorders	25.8	16.3	9.5	6.02	<0.014	2.5 - 16.5
Anxiety disorder	64.7	23.2	41.6	62.72	<0.001	34.0 - 49.2
Senility	20.0	8.4	11.6	12.25	<0.001	5.6 - 17.5

* McNemar's Test

Focus groups results and discussion

Following individual coding of the focus group transcriptions and cross validation of those codes by the authors, a summary of the responses to the questions was formatted as follows:

1. How much of the education do you feel you clearly understood?

Participants at all sessions stated that they understood the content of the education, eg *'concise and clearly defined', 'cross references are clear because it's in a framework', ' very simple to run with the overheads and they went through the various points'*. There were questions about what an algorithm was and some apprehension about training other staff. One participant commented that it was encouraging to find that *'there are people out there who cared enough to be doing this'*. Another said that *'this is what we have been looking for'*.

2. How much of the education do you feel you have retained?

Participants at all sessions stated variations of *'we kept going back to the book and poster… it was reinforcing/refreshing'*. One participant was most *'excited'* by learning about the principles of delirium, particularly the need for early recognition and treatment - *'that really impacted on me'*. Others claimed that by hanging the poster in various highly visible locations, such as in the staff room, in treatment rooms and even in the corridor, the knowledge was reinforced.

3. How much did the Algorithm support your feeling of confidence in delivering your training?

Overwhelmingly, participants stated that the Algorithm format was 'an excellent tool' that provided resources they have not had before whilst providing an *'opening window'* to definitions and awareness they had not considered. Some commented they *'no longer jumped to conclusions that this person is (just) demented'* and *'its very easy to label them… their behaviour has always been odd… they are just getting worse', 'they can still have a delirium and they can still be depressed'*.

The poster was said to continually reinforce their teaching and learning and gave *'credibility'* plus *'the chart was their gospel'*. One noteworthy comment was *'I can't wait to do the* (additional) *sessions so the rest of the staff see the points so that maybe, you know, they will be more astute in their assessment of people'*.

4. Can you give me an instance of you or your staff using the knowledge in your workplace?

Participants were keen to tell their success stories. All nine sessions included variations of a story in which AINs notified the trained staff that something was definitely wrong with a resident or they had withdrawn from a potentially aggressive situation and asked for help. AIN comments included *'… now I feel so guilty because I told Mrs so-and-so that she was just being whingy, and now I understand', '… he came down with tears in his eyes… he understood that he had perhaps been the trigger'*. RN comments included *'… I'm more inclined to look for reasons for the behaviour… more inclined to do something about it'; 'even hearing the history over the phone I was immediately able to link the information… start to investigate all the clinical signs… he had a UTI'; 'there's a haste to it to assess'; 'understanding that it's not just dementia'*.

5. Can you tell me specifically about any difficulties you encountered with applying this protocol in practice?

Participants at all sessions reported difficulties in teaching staff members who had a poor grasp of English and/or limited educational backgrounds: *'…untrained, unskilled people in conflict situations'; 'most don't even have a Certificate 111'* (TAFE level basic training). Suggestions were made that the program should be translated into other languages, particularly, Spanish, Mandarin, Polish, Chilean, Italian and Filipino. The trainers found that whilst they reduced the common medical terms to a lay level, they still had to seek translation assistance from other staff members.

Time for in-service sessions was reported to be a problem. Nevertheless, one facility reported that those staff who had attended the first session on the Algorithm protocols were so enthusiastic, that *'they spread the word… there was a good turn out the second time'*.

6. Has this new knowledge altered the way you or your staff feel about difficult situations and behaviours?

Many participants reported that they felt more confident, more in control, had more understanding and were more aware. *'I think a lot of the staff, particularly the AINs, are understanding that it's not the person, it's an illness or something that's causing the behaviour, not the actual resident being nasty to me'*. Others reported more ordered, less panicky, more peaceful, more tolerant, more forgiving, less judgemental responses. Staff also reported feeling *'empowered',* notably in relation to security and safety. In raising issues regarding the management of aggression, the facilities had had to examine their support protocols, particularly for isolated staff at night and weekends.

7. In your opinion has the incidence of disturbed behaviour increased or decreased during your shifts?

While some participants felt that there were fewer incidents of disturbed behaviour, others stated that *'episodes are just as common but are not escalating'; 'quicker at picking it up than they would have been'*. Stories were told that highlighted the enhanced understanding, eg, *'often her behaviour is frenetic… moving back in the morning… let her sleep… she really just needs to rest… and then not so wound up when she wakes… we used the Algorithm'*.

CONCLUSIONS AND RECOMMENDATIONS

A limitation of this study was the small number of trainers who returned to participate in the focus groups. Time for education was a problem but many who did not return notified the researchers of their regrets. Despite the added inducement of extra training in depression management offered to focus group participants, it could still be surmised that only those who had fully participated and had positive results, returned to report their outcomes. Whilst frank discussion was encouraged at the focus groups, it was also recognised that the presence of the author of the education package, as one of the researchers, might create a degree of Hawthorne or halo effect, such as a higher degree of positive comments (Wilson 1998). The focus groups were therefore lead by the non-author researcher.

It could also be true that providing post knowledge questionnaires so close to the education sessions does not prove knowledge retention nor ensure practice change. It is therefore encouraging that the anecdotal statements in the focus groups noted improved staff attitudes and practice. This is especially encouraging in view of the trainers' knowledge deficits.

While the trainers themselves did not achieve perfect scores on the knowledge tests, and many of the staff they trained had restricted educational backgrounds and language fluency, there were still significant improvements in attitudes and practice. It might, therefore, be suggested that with ongoing reinforcement and practice, further enhancement of knowledge would be possible. It might also be surmised that in view of the time constraints, these trainers would have been unlikely to develop their own teaching material, so that any improvement in practice would have been unlikely to happen anyway.

In view of the staff knowledge deficits, recommendations are made for ongoing train-the-trainer initiatives using this education package. Further studies replicating this initiative in the acute sector and the community would be useful.

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A COMPARISON OF THE OUTCOMES OF PARTNERSHIP CASELOAD MIDWIFERY AND STANDARD HOSPITAL CARE IN LOW RISK MOTHERS

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ABSTRACT

Background:

Maternal and infant clinical outcomes were compared for low risk mothers receiving a partnership caseload model of midwifery care, known as Primary Health Midwifery Care (PHMC), and standard hospital care (SHC).

Methods:

Using secondary analysis of data from the Obstet Data System routine collection (PHMC n=976, SHC n=976) from a large metropolitan hospital, maternal and infant clinical outcomes were examined.

Results:

Odds ratios (OR) demonstrated reduced rates of interventions for multiparous women (OR 0.62 [CI 0.49-0.80]), with multiparous women receiving PHMC being more likely to have a normal delivery (OR 1.75 [CI 1.22-2.5]). A higher proportion of both primiparous and multiparous women receiving PHMC received pethidine during labour (OR 1.78 [1.33-2.39], OR 1.55 [1.19-2.01] respectively). Primiparous women receiving PHMC underwent fewer episiotomies with an associated increase in the proportion of women experiencing perineal tears (OR 1.93, CI 2.35-2.78), although perineum trauma rates were similar for both care models. Similar and very small numbers of infants in both parity groups and care models had an Apgar of less than seven at five minutes or were admitted to the neonatal intensive care unit or special care unit.

Conclusion:

This study, within the limitations of its design, supports the safety of the partnership caseload midwifery care model, in addition to reduced rates of interventions experienced by multiparous women and fewer episiotomies in primiparous low risk English-speaking women receiving caseload care.

INTRODUCTION

Midwifery-led care for low risk mothers has been unfolding throughout the world in response to several tensions (Graham 1997; Hundley et al 1994). The disparity between what mothers want from health services and the realities of what they receive, has resulted in considerable consumer-focussed debate (Sandall 1995; Savage 1994; Warren 1994; Soderstrom et al 1990). A recent Australian report confirmed that 'Australian women value safety for their babies…[whilst] they are generally not impressed by the measures adopted to achieve them' (Commonwealth of Australia 1999, p.13).

Midwives themselves have also been active in seeking increased autonomy in their practice through innovative approaches to care delivery (Lewis 1995; McDaid 1991). Research findings supporting the safety, cost effectiveness, and other benefits of midwifery-led care (often team midwifery) for mainly low-risk women have been demonstrated over the past decade (Law and Lam 1999; Farquhar et al 1998; Tinkler and Quinney 1998; Waldenstrom and Turnbull 1998; Hundley et al 1997; Harvey et al 1996; Hodnett 1996; Tucker et al 1996; Turnbull et al 1996; Carlisle 1995; Rowley et al 1995; Graveley and Littlefield 1992; Biro and Lumley 1991). In Australia, these developments have been closely paralleled by government taskforces supporting the need for reform (NSW Health 1996; Health Department of Victoria 1990; Ministerial Task Force on Obstetric Services in NSW 1989), although reform has been cautiously implemented.

Our health service provides a complex array of service options for the expectant mother - standard hospital care, specialist obstetrician and hospital care, general practitioner-obstetrician shared care, midwifery care models (midwives clinics for antenatal and postnatal care), domiciliary midwifery (postnatal care) - with the exception of team midwifery (four or more midwives) or caseload midwifery.

Caseload midwifery refers to a woman receiving care from the same midwife 24 hours a day (Morgan et al 1998). Partnership caseload midwifery, whereby the ‘caseload is shared between two midwives and most of the care is provided by the named midwife and the rest by her partner, or occasionally by a larger group practice of midwives’ (Morgan et al 1998, p.78), was the preferred model selected to complement our existing services. This contrasts with the definition by Biro et al (2003) of ‘caseload midwifery includes one or two midwives who provide care throughout the childbearing episode’ and team midwifery models being ‘seven to eight midwives and provide care to a group of women throughout the childbearing year’ (p.2).

Although partnership caseload midwifery practice is a slightly different model to team midwifery (carry a personal caseload and also provide support to others), research findings and outcome measures from this large body of research are relevant to this study.

Waldenstrom and Turnbull (1998) undertook a comprehensive evaluation of team midwifery through a systematic review of existing studies. This review identified seven randomised controlled trials including 9148 women, conducted from 1989 to 1997. Each of the seven studies (Waldenstrom et al 1997; Harvey et al 1996; Turnbull et al 1996; Rowley et al 1995; Kenny et al 1994; MacVicar et al 1993; Flint et al 1989) was considered in terms of interventions during labour and birth (induction, augmentation, electronic foetal monitoring, analgesia in labour [epidural, narcotics], operative delivery [caesarean section, instrumental vaginal delivery], maternal outcomes such as episiotomy, and infant outcomes such as five minute Apgar scores, admissions to intensive care or the special care baby unit, and stillbirths and neonatal death rates [perinatal mortality]) (Waldenstrom and Turnbull 1998). Although there was considerable diversity in designs and sample sizes of these clinical trials, they represent a group of midwifery models focused upon continuity of care.

The odds ratios from each of these studies, and the ratios from the pooled data, provide important reference points and outcome measures for this study of caseload midwifery practice. These studies of team midwifery practice collectively (pooled data) confirm that team midwifery approaches were related to less interventions during labour (OR=0.76), no difference in caesarean section rates (OR=0.91), lower episiotomy rates (OR=0.69) (in the presence of higher rates of perineal tears, OR=1.15), similar numbers of babies with Apgars of less than seven at birth (OR=1.13), and similar numbers of babies admitted to special care baby units (OR=0.86) (Waldenstrom and Turnbull 1998). A recent Australian study comparing team midwifery (seven midwives providing antenatal, intrapartum and postpartum care to a group of low- risk women) to standard care found increases in satisfaction - particularly in antenatal care - (Biro et al 2000) and some benefits from continuity of care (‘provision of midwifery care from early pregnancy through to the early postpartum period by a team of 76 midwives for the same group of women’, p.2).

One-to-one midwifery care (one midwife planning and providing most maternity care) has also been evaluated in London, UK, with reports of high satisfaction with antenatal and birth care and greater preparedness for birth and the time after the baby’s birth (McCourt et al 1998) in comparison with women receiving conventional care.

This study examines partnership caseload midwifery, and while minor differences may be evident when considering team midwifery (greater number in the team four to seven versus two and a group of women versus a personal caseload), the emphasis on continuity of care is consistent across models.

This study complements other results relating to women-centred care and caseload midwifery models where this team confirmed the benefits of partnership caseloads as including delivery of continuity of care (known midwife at antenatal visits, at labour and delivery), and improved satisfaction with care during pregnancy, labour and delivery (Johnson et al 2003). These outcomes mirror Biro et al’s (2000) work in team midwifery compared to standard care. The partnership caseload model of midwifery practice provides an opportunity for evaluation of a slightly different model of midwifery-led care within an Australian context. No research has explored the maternal and infant outcomes of low-risk mothers receiving care from partnership caseload midwives within Australia.

Partnership Caseload Midwifery Model - PHMC

The PHMC sought to provide an appropriate maternity service which offers greater choice, control, and continuity of care to low risk childbearing women. Women with no pre-existing medical, gynaecological, or hereditary disorders, previous poor obstetric history, or other factors associated with potential obstetric problems at booking are eligible to participate in the program. At any time this risk status could change. Staff education and skills enhancement occurred within the hospital, and these midwives work in close consultation with obstetricians.

A primary health care approach was fundamental to the model with delivery of services when and where mothers wanted them, in the community rather than hospitals, and focusing on wellness rather than the medicalisation of childbirth (NSW Health 1996).

Each mother received the usual schedule of antenatal visits (generally six to eight PHMC visits (medical officer visits at weeks 12-16, 36 and 40 or more weeks; although flexibility in attendance times was possible). On admission to the labour ward the PHMC midwife or associate attended the woman. Finally the PHMC midwife or associate provided supportive postnatal care in the unit, (although immediate needs were attended to by the hospital staff), and follow-up domiciliary care. Domiciliary post-natal care was provided within 24 hours of discharge and included home visits up to day six or beyond (if required) and was usually three to four visits.

Thus, care within the antenatal, intrapartum and postnatal periods was delivered by a known or associate midwife.

Standard hospital care

These women received care from doctors and midwives within the antenatal clinic. Similar numbers of antenatal visits were available to this group as the PHMC group. On admission to the labour ward any midwife on duty attended this mother. Finally postnatal care was delivered within the postnatal ward and the community, where the midwife may or may not have been known to the woman. These women may or may not have known the midwife or doctor who delivered care to them in the antenatal, intrapartum or postnatal periods. These women may have received care from the PHCM for postnatal home visits.

Therefore, the purpose of this study is to evaluate, through a retrospective comparison of existing data, the maternal and perinatal outcomes of mothers who received maternity services from partnership caseload midwives (referred to hereafter as Primary Health Midwifery Care - PHMC) and mothers receiving standard hospital care (SHC). This study examines maternal and infant outcomes of this midwifery practice model by confirming or refuting the following hypotheses:

1. Less low risk women (number and proportion) receiving PHMC will experience interventions - including induction, augmentation, analgesia in labour (epidural, narcotics), and operative delivery (caesarean section, instrumental vaginal delivery; or undergo episiotomy or perineal tearing, than low risk women receiving SHC.

2. Similar numbers (proportion) of infants with Apgar scores less than seven at five minutes will be demonstrated for low risk mothers receiving PHMC and SHC.

3. Similar numbers (proportion) of infants will be admitted to intensive care or special care baby unit for low risk mothers receiving PHMC and SHC.

METHODS

This study involved secondary analysis of existing data from the Obstet Data System (ODS), which uses data items and definitions from the New South Wales Midwives Data Collection (MDC). The MDC is ‘a population-based surveillance system covering all births in NSW public and private hospitals, as well as home births’ (Taylor et al 1998, p.9) and includes several measures of maternal and infant morbidity and mortality. MDC data are entered by the midwife at various points throughout the woman’s birthing experience.

Several outcome measures were included in this study, the definitions of which are provided within the MDC Report (Taylor et al 1998), including induction, augmentation, analgesia in labour (epidural, narcotics), operative delivery (caesarean section, instrumental vaginal delivery), maternal outcomes such as episiotomy, and infant outcomes such as five minute Apgar scores of less than seven, admissions to intensive care or special care baby unit, and stillbirth and neonatal death rates (perinatal mortality).

The reliability of the data entered into the ODS (reflecting MDC) has been reported as ‘perfect or near perfect agreement’ when compared with medical record entries (95% of records examined) (Taylor et al 1998, p.97). Seventy per cent of data items have reported ‘kappa coefficients of 0.75’ (Taylor et al 1998, p 98) with minimal missing data. These data form the outcome measures considered in this study.

An item identifying the various care options such as PHMC, standard hospital care, general practitioner shared care and other care options was also included in the data set. Mothers receiving maternity care from a large metropolitan health service during the time period of 1 July 1997 to 30 June 2000 (PHMC commenced in 1997) were included in the study.

Data extraction and comparison of groups

From the data collected during the above time periods all women receiving public health care and whose language spoken was English were included. From this initial available sample of records of 9964, 2693 high risk women were excluded. These were women with a history of antepartum haemorrhage (due to placenta praevia, abruptio placentae or other causes), pregnancy induced hypertension, gestational diabetes, prolonged rupture of membranes, threatened premature labour, blood group isoimmunisation, cervical suture, amniocentesis (<20 weeks), or CVS (<20 weeks). Similarly, 2065 records had missing data in the language spoken item of the data base and were excluded. Other records were excluded as they represented other models of care resulting in 3815 records with 976 records for PHMC and 2839 for SHC. An equivalent sample of 976 records from the SHC group was randomly selected using a statistical package and formed the comparison group. The total sample used included 1952 records representing low risk, English-speaking women, who had chosen (self-selected) or received either PHMC or SHC. These data were compared on a selection of maternal and infant clinical outcomes.

This study used existing data sources with an item embedded that identified whether the mother had received PHMC or SHC. Although PHMC was often a preferred option for mothers, only 600 mothers per year could experience PHMC, resulting in SHC being experienced initially by approximately twice as many mothers during the data extraction period. Analyses were conducted on the entire sample of records available which did not evidence substantial differences to the findings presented in this comparison of a randomly selected equivalent group of women. As odds ratios examine proportions, variations in sample size between groups have minimal impact on the outcome.

Nonetheless, selection bias associated with mothers choosing to participate in the PHMC program is a considerable study limitation. While this study initially planned to use a randomised control trial design, the research team members supported women's rights to choose their care option.

ANALYSIS

All data were analysed using Statistical Package for the Social Sciences (SPSS), version 10. Odds ratios and their related confidence intervals were used to explore proportional differences in the two care methods (PHMC and SHC). The analyses were conducted separately for primiparous and multiparous women and then for all groups.

Ethical considerations

This study was approved by the South Western Sydney Area Health Service Ethics Committee and the University of Western Sydney (Macarthur) Ethics Committee.

RESULTS

Sample

These low risk women had a mean age of 27.08 years (SD 4.93 years), 73% were born in Australia (1036/1417), 79% were in relationships (1542/1952), with 47% (904/1912) having an occupation of home duties and a further 53% (1008/1912) either employed or engaged in other activities. Seventy-five percent of women did not smoke (1462/1952). Multiparous women represented 61% (1195/1952) with 39% (757/1952) being primiparas. The mean gestational age of the infants was 39.63 weeks (SD 1.90 weeks).

Maternal ages for the PHMC (mean 27.5 years, SD 4.25 years) and the SHC group (mean 26.65 years, 5.50 years) were similar. Gestational ages for infants were also comparable for both groups (PHMC 39.88 weeks, SD 1.36 weeks; SHC 39.38 weeks, SD 2.30 weeks).

Maternal outcomes (including interventions)

Maternal outcomes were examined and are presented in table 1. For primiparous women there was no significant difference in the numbers (proportion) of women undergoing induction or augmentation. However, less multiparous women experienced induction and this was consistent in the analysis for all women (PHMC OR 0.83, CI .76-0.92; SHC OR 1.19, CI 1.08-1.30).

Unexpectedly, more PHMC primiparous and multiparous women received pethidine during labour, emphasised in the primiparous group (PHMC OR 1.3, CI 1.14-1.48; SHC OR 0.72, CI 0.61-0.85 SHC). PHMC multiparous women experienced more normal vaginal deliveries (OR 1.38, CI 1.10-1.73) compared to multiparous women receiving SHC (OR 0.78, CI 0.69-0.93) and had a corresponding lower incidence of caesarean sections (PHMC OR 0.71, CI 0.53-0.95; SHC 1.26, CI 1.08-1.48). No significant differences were found when incidences of forceps deliveries were compared for any of the groups.

Less PHMC primiparous women (PHMC OR 0.85, CI 0.72-99; SHC 1.20, CI 1.00-1.43) experienced an episiotomy, although there was a corresponding rise in the number of perineal tears for these women (PHMC OR 1.33, CI 1.14-1.54; SHC 0.68, CI 0.55-0.85). Closer examination of the degree of perineal tears revealed there were more primiparous PHMC women experiencing 2nd degree tears (21.0% compared to 12.0% SHC) with similar proportions for 1st and 3rd tears. However, examination of perineal trauma overall versus intact perineum numbers for both groups, confirmed that overall trauma experienced by both groups was similar (OR 1.05, CI 0.75-1.46, _2=0.08, df=1, p=0.79).

These analyses confirm less intervention for multiparous PHMC women in the areas of induction and caesarean section, but more perineal tears with less

Table 1: Maternal outcomes (including interventions) for partnership caseload (PHMC) and standard hospital care (SHC) groups

Maternal outcome	Primipara			Mulitpara			All n=1952
	PHMC n=408	SHC n=349	OR (95% CI)	PHMC n=568	SHC n=627	OR (95% CI)	OR (95% CI)
Induction	177/217§	172/161§ (0.57-1.02)	0.76	167/384§	239/345§ (0.49-0.80)	0.62*** (0.58-0.84)	0.70***
Augmentation	93/301§	89/244§ (0.60-1.18)	0.84	73/478§	101/483§ (0.52-1.01)	0.73 (0.64-1.02)	0.85
Analgesia in labour (pethidine)	210	130 (1.33-2.39)	1.78***	174	139 (1.19-2.01)	1.55*** (1.40-2.06)	1.70***
Analgesia in labour (epidural)	80	70 (0.67-1.39)	0.97	31	50 (0.41-1.05)	0.66 (0.69-1.20)	0.91
Normal vaginal delivery	305	251 (0.83-1.59)	1.15	516/52§	533/94§ (1.22-2.5)	1.75** (1.02-1.73)	1.29*
Caesarean section	51	45 (0.62-1.48)	0.96	32/536§	60/567§ (0.36-0.88)	0.56** (0.57-1.04)	0.77
Instrumental vaginal delivery (forceps)	8	12 (0.22-1.39)	0.56	5/563§	5-622§ (0.31-3.8)	1.10 (0.36-1.57)	0.76
Episiotomy	116/194§	120/262§ (0.50-0.98)	0.70*	50/254§	63/233§ (0.48-1.09)	0.72 (0.59-0.97)	0.75
Perineal tear	131/179§	72/190§ (1.35-2.78)	1.93***	185/119§	162/134§ (0.92-1.77)	1.28 (1.16-1.85)	1.46***

§ Number present/number absent (where sample sizes vary)
Significant difference: *p<0.05, **p<0.01, ***p<0.001.
Induction: Onset of labour not spontaneous (Rowley et al 1995, p.291). Excludes no labour group.
Augmentation: Artificial rupture of membranes or use of oxytocic drugs after spontaneous onset of labour (excludes induced labour) (Taylor et al 1998, p.12-14).
Caesarean section: Delivery of the foetus through an abdominal incision, including elective.
Episiotomy: An incision in the perineum and vagina to enlarge the vulval orifice (Taylor et al 1998, p.12-14).

episiotomies for primiparous PHMC women, and thus only partially supporting hypothesis 1.

Infant outcomes

Table 2 outlines the odds ratios for infant outcomes for primiparous, multiparous and all women. There were small numbers of babies with five minute Apgar scores of less than seven in both primiparous and multiparous comparisons. There were similar numbers (proportions) of babies admitted to either intensive care or the special care nursery for all groups. The related confidence intervals for these odds ratios were wide and in the presence of such small numbers were not significantly different for the group comparisons. Hypothesis 2 and 3 were supported by these analyses.

DISCUSSION

This study was undertaken to evaluate the maternal and infant outcomes of a partnership caseload model of midwifery practice. Findings from previous studies and a systematic review of clinical trials relating to team midwifery research by Waldenstrom and Turnbull (1998) suggested there were potentially improved outcomes (reduced interventions) for women receiving continuity of midwifery care. This partnership caseload model of midwifery practice, although being different to team midwifery, would be expected to achieve similar clinical outcomes (the focus of this study) for women and their babies, given the very low maternal and infant mortality and infant morbidity.

This study represents a retrospective examination of a large sample of data routinely collected within our health service and is only broadly comparable to clinical trial outcomes of team midwifery. Women's satisfaction with this midwifery practice model has also been evaluated through a prospective survey reported elsewhere (Johnson et al 2003).

Maternal outcomes

Improved outcomes were found for PHMC women, including less multiparous women experiencing inductions and caesarean sections and less primiparous women experiencing episiotomies, although primiparous women receiving PHMC experienced more perineal tears. Close scrutiny of the odds ratios for these outcomes for all PHMC versus SHC women provide a point of comparison with the odds ratios determined by the Waldenstrom and Turnbull (1998) systematic review. Similar odds ratios from the PHMC study (PHMCS) versus pooled data from the Waldenstrom and Turnbull (1998) systematic review (SR) were found including induction (PHMCS OR 0.70; SR OR 0.76), augmentation (PHMCS OR 0.85; SR OR

Table 2. Infant outcomes for partnership caseload (PHMC) and standard hospital care (SHC) groups

Infant outcome	Primipara			Mulitpara			All n=1952
	PHMC n=408	SHC n=349	OR (95% CI)	PHMC n=568	SHC n=627	OR (95% CI)	OR (95% CI)
Babies with 5 minute Apgar <7	10	12/332§	0.69 (0.29-1.62)	12/555§	17/606§	0.77 (0.36-1.62)	0.74 (0.42-1.30)
Babies admitted to intensive care or special care nursery	35	23	1.33 (0.77-2.29)	20	24	0.91 (0.50-1.67)	1.18 (0.79-1.76)

§ Number present/number absent (where sample sizes vary)

0.78), caesarean section (PHMCS OR 0.77; SR OR 0.91), instrumental delivery (forceps) (PHMCS OR 0.76; SR OR 0.82), episiotomy (PHMCS OR 0.75; SR OR 0.69), and perineal tear (PHMCS OR 1.46; SR OR 1.15), epidurals (PHMCS OR 0.91; SR OR 0.76). Dissimilar odds ratios were demonstrated for the use of narcotics (PHMCS OR 1.70; SR OR 0.69), although Waldenstrom et al's (1997) large Swedish study reported an OR of 1.69 very similar to this study.

Statistically significant differences were found in the SR for induction, augmentation, epidural, narcotics, and episiotomy and perineal tear for the pooled data set from clinical trials of 3810 women. Statistically significant differences were found for induction, analgesia in labour, normal vaginal delivery and perineal tears in this retrospective study of 1952 women.

Major differences between the studies were evident in the area of the provision of pethidine during labour. Considerably more PHMC women received pethidine in both primiparous and multiparous women. The strong rapport between women and primary health midwives may have contributed to women feeling more comfortable to ask and receive pain relief. Primary health midwives may also have been more responsive to women's pain threshold and pain relief needs. The use of pethidine, in this study, may reflect practitioner preference. A large study of 471 women (pethidine (n=206) and epidural (n=201) with 64 women receiving no analgesia) by Mansoori et al (2000) demonstrated that women who requested an epidural block were more satisfied with their pain relief during labour than women receiving pethidine, however, those women having epidurals also had longer labours and were more likely to have instrumental delivery and caesarean sections (untoward aspects of care).

For primpara women there was a decrease in the number of episiotomies and an increase in the number of perineal tears. Further exploration of the perineal data found increased numbers of PHMC women with 2nd degree tears. Further, while there is a difference between the proportion of PHMC primpara women experiencing 2nd degree tears and SHC, 2nd degree tears are seen to be equivalent to both midline and mediolateral episiotomies in terms of the structures involved (McGuinness et al 1991). There appears to be considerable debate surrounding the efficacy of episiotomies over perineal tearing and these results may, in part, reflect the debate influencing practices (McGuinness et al 1991; Moses 1992). A contemporary study of 49,692 spontaneous vaginal births by Webb and Culhane (2002) confirmed the positive correlation between episiotomy rates and rates of a third or fourth degree perineal laceration and also concluded that 'liberal as opposed to restrictive use of episiotomy is unwarranted and probably even harmful' (p.132).

The decrease in episiotomies and the increase in perineal tears (particularly 2nd degree) in PHMC primiparas may indicate more effective clinical management of women receiving PHMC compared to those receiving SHC. Nonetheless, there was no significant difference in the number of PHMC primpara women experiencing perineal trauma overall.

Infant outcomes

Similar outcomes were found for PHMC infants and SHC infants. Similar non-significant odds ratios were demonstrated for the PHMC study and the pooled data from the systematic review, including babies with five minute Apgar <7 (PHMCS OR 0.74; SR OR 1.13), and admissions to intensive or special care nursery (PHMCS OR 1.18; SR OR 0.86).

These findings support and confirm the similar infant outcomes of partnership caseload midwifery compared to standard care, also supporting the benefits of this model in such clinical outcomes as reduced rates of caesarean section and slightly higher rates of normal vaginal deliveries.

LIMITATIONS

While this study initially planned to use a randomised control trial design, the research team members supported women's rights to choose their care option. Sample selection bias, as previously noted, may have occurred.

Only studies of the size of the Waldenstrom and Turnbull (1998) (n=9148) systematic review are likely to accurately reflect differences. This study has, therefore, sought to compare the odds ratios found in this study with those obtained from this very large review of clinical trials comparing continuity of midwifery care with standard hospital care.

It should be noted that at all times PHMC midwives were required to adhere to hospital policies and standards of practice. This may have indirectly reduced the opportunity for improved outcomes.

Although this study compared partnership caseload midwifery to standard care, only comparisons of the various midwifery-led models (such as team and caseload midwifery and standard care) within the same setting are likely to identify the magnitude and direction of difference between team and caseload approaches to midwifery practice.

CONCLUSION

We acknowledge the restrictions that choice has placed on these results, but suggest that given the large number of randomised control trials undertaken in team midwifery or other models of continuity of care, this study provides additional support for existing evidence that midwifery-led practice for low risk women has improved maternal outcomes and similar infant outcomes.

Future research using this practice model in high-risk women is warranted. This study has provided support for some improved maternal outcomes for low risk women experiencing partnership caseload midwifery practice. We support this model of practice as another midwifery-led option of care based on the principles of continuity of care.

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PREVALENCE OF HAND DERMATITIS AMONG HOSPITAL NURSES WORKING IN A TROPICAL ENVIRONMENT

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Key words: hand dermatitis, nurse, Australia, tropical environment, rural, hospital

ABSTRACT

Background:

Although hand dermatitis (HD) is a common occupational problem among hospital nurses, few epidemiological studies of this disease have been conducted in regional areas or tropical environments.

Aim:

The aim of our investigation was, therefore, to investigate HD prevalence and correlates among nurses within a unique Australian setting.

Design:

We recruited a cohort of 148 female nurses from a large tertiary hospital in north Queensland, Australia, and administered a previously validated, self-reporting HD questionnaire.

Results:

The 12-month period prevalence ranged from 43.2% to 59.3%, with an overall group mean of 50.0%. There were no statistically significant differences in HD prevalence between the different hospital wards (p=0.4238). During multiple logistic regression, a history of allergic rash was shown to increase the HD risk 5.5-fold (odds ratio: 5.5, 95% CI: 1.9–19.2, p=0.0038). The risk of HD was also related to increased hand washing frequency (OR 5.8, 95% CI: 1.1–33.4, p=0.0402).

Conclusions:

Overall, the occurrence of HD among Australian nurses was relatively consistent across the various hospital wards. Their 12-month period-prevalence of HD was, however, generally higher than previous reports from other countries.

INTRODUCTION

Hand dermatitis (HD) represents one of the most common occupational skin diseases affecting nurses and is usually caused by irritant contact dermatitis or allergic contact dermatitis (Smith et al 2002a). HD can be a serious temporary affliction or an ongoing condition, and may frequently relapse (Meding and Swanbeck 1990a). Although HD occurs community-wide (Lantinga et al 1984), nurses usually suffer this disease at rates in excess of the general population. In a previous survey for example, Smit et al (1993) documented female nurses suffering from HD at a rate three times higher than the general population. Similarly, in another community survey, Meding and Swanbeck (1990b) showed medical and nursing staff to have the highest HD prevalence of all occupations.

Hospital nurses are particularly prone to HD, but their rate seems to vary depending on the department they work in. Smith et al (2003) investigated HD among Japanese hospital nurses and found the prevalence to range from 6% in psychiatry to 48% in surgery. Overall HD prevalence rates among hospital nurses have been reported to be 26% in the United States (Larson et al

1997), 29% in the Netherlands (Smit and Coenraads 1993) and 35% in Japan (Smith et al 2003). Risk factors for HD vary from study to study; but wet work (Nilsson and Bäck 1986), hand washing frequency (Forrester and Roth 1998), latex glove usage (Larson et al 1997), previous history of allergic disease (Soter et al 2001) and department of employment (Smith et al 2003) are common predictive variables.

Hand dermatitis may result in significant ongoing trouble and excess sick leave among nursing staff. HD may also adversely affect nurses' quality of life via physical discomfort, reduced productivity and decreased employment opportunities (Fay 1991).

Despite the widespread distribution and significant morbidity potential of occupational HD among hospital nurses, studies of this disease are uncommon in regional Australia and few, if any, have been undertaken in tropical environments. Therefore, the researchers considered it necessary to conduct one of the first epidemiologic investigations of hand dermatitis among hospital nurses working within a tropical region of northern Queensland, Australia. The aim of our investigation was to thoroughly investigate HD prevalence and to establish potential risk factors for this disease within a unique Australian setting.

Medical investigation of HD is usually very expensive and often interferes with nurses' daily activities. Therefore, a self-reporting questionnaire survey was chosen as the diagnostic methodology. Previous studies have shown this particular technique to be reliable and well tolerated by staff (Smith et al 2003; Soter et al 2001; Forrester and Roth 1998; Larson et al 1997; Smit and Coenraads 1993; Smit et al 1992). Other researchers have demonstrated the relative accuracy of questionnaire surveys for hand dermatitis (Smit et al 1992; Berg 1991). For example, Smit et al (1992) showed that the sensitivity and specificity of their Dutch HD questionnaire was 100% and 64%, respectively. The merits of self-reporting skin disease symptoms with relation to clinical signs have also been documented by other authors (Simion et al 1995).

METHODOLOGY

This study was given ethics approval by the Townsville District Health Service Ethics Committee (Townsville, Australia), James Cook University Ethics Committee (Townsville, Australia) and the National Institute of Industrial Health Ethics Committee (Kawasaki, Japan). Subjects were asked to complete a structured, self-reporting HD questionnaire to elicit symptom descriptions and diagnostic criteria. The questionnaire was adapted from a tool used in previous studies conducted in other countries (Smith et al 2003; Smith et al 2002b; Forrester and Roth 1998; Larson et al 1997; Smit et al 1993, Smit and Coenraads 1993; Smit et al 1992).

The questionnaire tool was a simple, two-page document containing: a) demographic items such as: age, sex, smoking habit, drinking habit and the presence of past or current allergic disease (atopic dermatitis, asthma, allergic rhinitis or hay-fever); b) employment-based questions, such as: weekly working hours, duration of employment, exposure to latex products and the number of hand washes usually performed per work-shift (the number of hand washes per work shift was assessed as a simple number and the type of hand wash was not asked; and, c) specific dermal symptoms known to be indicative of HD (Smit et al. 1992). Briefly, these symptoms included: red hands or fingers with fissures, scaling hands or fingers with fissures, red and swollen hands or fingers, vesicles on the hands or between the fingers and itching hands or fingers with fissures (Smith et al 2003; Smith et al 2002b; Soter et al 2001; Forrester and Roth 1998; Larson et al 1997; Smit et al 1993, Smit and Coenraads 1993; Smit et al 1992).

Our questionnaire specifically asked if any of these symptoms had occurred in the previous 12-month period, and if so, whether the symptoms persisted longer than three weeks or reoccurred during the 12-month recall period. The presence of HD was established according to criteria defined by Smith et al (2003), Smit and Coenraads (1993), Smit et al (1993) and Smit et al (1992). The criteria required two or more symptoms to appear in the preceding 12-months and to persist for more than three weeks or to have reoccurred during the 12-month recall time period.

A cohort of 262 nursing staff involved in clinical activities in a large teaching hospital in Townsville, Australia, was recruited. All staff worked in the hospital inpatient areas in various clinical sections on three different floors of the facility. For convenience, their locations were grouped and labelled as follows: surgical wards, medical wards, maternity/paediatrics and rehabilitation/oncology. This grouping was undertaken to ensure there were similar numbers of staff in each group. Questionnaires, together with an information sheet about the study, were distributed to nursing staff on the three floors by senior nurse management in early July 2003 (mid winter). An envelope labelled 'for completed questionnaires' was supplied to each ward at that time. A specific 10-day collection period was chosen because it was expected that all nurses would have worked at least one shift within that time. Secondly, time limitations of the principle investigator prevented a longer data collection period. The voluntary nature of the study was verbally explained to nurses and included in writing on the covering letter distributed with the questionnaires. There were no penalties for not participating in the survey and similarly, no rewards or incentives were offered for research participation. Informed consent was implied by nurses returning their questionnaires.

Data from the questionnaires was coded and entered on a spreadsheet program before being statistically analysed. Statistical significance was set at $p<0.05$ for all tests. Nurses were stratified according to the department they worked in. Similarities and differences between the departments were calculated using the chi-square test for discrete variables such as work exposure to latex gloves; and one-way Analysis of Variance (ANOVA) for continuous variables such as age and the number of hand washes per shift. Multiple logistic regression was performed using the Cochran Mantel-Haenszel method to ascertain if there was any correlation between HD and personal or occupational factors. Hand dermatitis was utilised as the dependent variable and demographic or workplace items were selected as the independent variables. Potential risk factors were selected from those documented in previous studies, such as systemic allergy, number of hand washes per shift and hospital ward (Smith et al 2003; Soter et al 2001; Forrester and Roth 1998; Larson et al 1997; Nilsson and Bäck 1986). Results were expressed as Odds Ratios (OR) and 95% Confidence Intervals (95% CI). All Odds Ratios were adjusted for age, duration of employment and work department.

RESULTS

Completed questionnaires were obtained from 154 nurses, representing 58.8% of the total number currently employed. Responses from six males (3.9%) were excluded to help prevent statistical anomalies during data analysis, leaving a homogenous final cohort of 148 female nurses (96.1%). Their average age was consistent across the wards: range 34.3±1.7 years to 38.6±2.2 years (see table 1). Occasional alcohol consumption was relatively common, ranging from 59.1% to 69.4% per ward, and tobacco smoking ranged from 17.1% to 40.7%. Between 7.3% and 22.2% of nurses reported suffering from an allergic-type skin dermatitis or rash in the previous 12-months. Demographic variables were not statistically different between the wards (all p>0.05).

Most nurses were employed as Level 1 RNs (80.6% to 87.8%) and almost all were required to wear latex gloves on a daily basis (88.9% to 97.7%). The average length of time worked in nursing ranged from 9.2 to 13.2 years. Hand washing frequency varied significantly between the wards (p=0.0152), range: 31.0 to 46.6 hand washes per work shift (median = 30). Using previously validated diagnostic criteria, the 12-month period-prevalence of hand dermatitis among nurses in the current study ranged from 43.2% to 59.3%, with an overall group mean of 50.0% (95% CI range: 42.0% to 57.9%). Multiple logistic regression indicated a history of allergic rash increased the HD risk 5.5-fold (OR: 5.5, 95% CI: 1.9-19.2, p=0.0038), refer to table 2. The risk of HD was also related to increased hand washing frequency (OR 5.8, 95%CI 1.1-33.4, p=0.0402).

DISCUSSION

The overall prevalence of HD (50.0%), indicates the nurses in our study suffered more hand dermatitis than previously documented in a Japanese teaching hospital (35%) (Smith et al 2003). Their HD prevalence was also higher than other investigations from the United States (25.9%) (Larson et al 1997) and the Netherlands (between 29.4% and 32.0%) (Smit et al 1993). Community surveys of HD occasionally appear in scientific literature and indicate the background prevalence to range from 7.1%

Table 1: Nurse demographics and hand dermatitis prevalence by hospital ward

	Surgical ward (n=36)		Medical ward (n=44)		Maternity/paediatrics (n=41)		Rehabilitation/oncology (n=27)		
	n	(%) [a]	n	(%) [a]	n	(%) [a]	n	(%) [a]	p value [b]
Demographic items									
Age in years (mean ± SD)	35.1±1.7		35.6±1.6		34.3±1.7		38.6±2.2		0.4537
Alcohol drinker	25	(69.4)	26	(59.1)	28	(68.3)	17	(63.0)	0.7460
Tobacco smoker	8	(22.2)	10	(22.7)	7	(17.1)	11	(40.7)	0.1530
Allergic rash	8	(22.2)	9	(20.5)	3	(7.3)	6	(22.2)	0.2436
Workplace items									
Registered nurse	29	(80.6)	38	(86.4)	36	(87.8)	22	(81.5)	0.7839
Latex glove use	34	(94.4)	43	(97.7)	40	(97.6)	24	(88.9)	0.3129
Total job years (mean ± SD)	12.3±1.7		9.2±1.5		13.2±1.6		11.8±1.9		0.3100
Hand washes (mean ± SD)[c]	46.6±4.4		44.9±4.1		31.0±4.0		32.6±4.9		0.0152
Hand dermatitis	16	(44.4)	19	(43.2)	23	(56.1)	16	(59.3)	0.4238

[a] percentages of staff in each department are shown in parenthesis, [b] significant differences between departments calculated using the chi-square test for discrete variables and one-way analysis of variance for continuous variables, [c] average number of hand washes per work shift.

Table 2: Risk factors associated with hand dermatitis among hospital nurses.

		Number		Logistic regression		
Risk factor[a]	Category	n	(%) [b]	OR [c]	(95% CI)	p value
Previous allergic rash	No	129	(87.2)	1.0	-	-
	Yes	19	(12.8)	5.5	(1.9-19.2)	0.0038
Hand washes/shift[d]	All	148	(100)	5.8	(1.1-33.4)	0.0402

[a] risk factors analysed simultaneously using multiple logistic regression and expressed as adjusted odds ratios (OR) with 95% confidence intervals (95%CI), [b] percentage of all nurses in each subcategory (n=148), [c] odds ratios adjusted for age, total duration of employment and hospital ward, [d] evaluated as a continuous variable with increasing increments of one hand wash per shift

(Lantinga et al 1984) to 10.6% (Smit et al 1993) in the Netherlands and 11.8% in Sweden (Meding and Swanbeck 1990b). Comparing our nurse HD prevalence with that of general hospital staff suggests that the nurses' rates are slightly lower. For example, HD among hospital staff has been reported at 69.6% in Poland (Soter et al 2001) and 55.6% in the United States (Forrester and Roth 1998). Alternatively, the prevalence of HD among Italian hospital staff (21.2%) (Stingeni et al 1995) appears to be lower than nurses in Australia.

Differences in HD prevalence rates between our investigation and that of previous studies suggests tropical environments might influence the development of skin disease, particularly when certain occupational co-factors are involved. Cultural differences are also important to consider as there may be unknown ethnographic factors influencing nurses' self-reporting behaviour. Such a mechanism could have led the Australian nurses to report higher rates of HD than their counterparts in other countries. This phenomena has been previously hypothesised by Smith et al (2003), who studied HD among hospital nurses in central Japan. Alternatively, our nurses may have actually under-reported their HD symptoms, and the true prevalence might be even higher than 50%. As there is no concrete evidence to support or deny the issue of HD under-reporting among our nurse cohort, future researchers would need to undertake medical examinations of more comprehensive nursing groups; a prohibitively expensive task. Given the methodological similarities between our study and that of previous authors, however, we expect the error rates arising from these limitations would be roughly comparable.

Nonetheless, taking the aforementioned limitations into account, it appears that Australian nurses working in a regional, tropical environment report HD at rates higher than Japanese, American and Dutch nurses. Furthermore, the HD rate in these nurses could be higher than the background community levels elucidated in other investigations. Seasonal factors also need to be considered when exploring the development of skin diseases and excess levels of HD among Australian nurses. Hot environments usually cause excessive sweating (Fay 1991), which may, in turn, increase the presence and severity of HD. However, because we utilised a 12-month recall period, the end result should have captured all cases over time and thus, accounted for the relative influence of each individual season on HD development. It would be interesting to repeat the study in a different season, such as mid-summer, to evaluate seasonal effects on HD prevalence more thoroughly. As our questionnaire did not specifically ask nurses when their HD symptoms occurred nor how long each episode lasted, the inclusion of such questions may also be a useful addition for future HD surveys.

Identifying allergic skin rashes and increased hand washing frequency as risk factors for HD is consistent with previous reports (Smith et al 2003; Smith et al 2002b; Soter et al 2001; Forrester and Roth 1998; Larson et al 1997; Stingeni et al 1995; Meding and Swanbeck 1990c; Nilsson and Bäck 1986). Allergic rashes are commonly associated with systemic allergy, which may enhance skin susceptibility to irritation and prolong the dermal recovery period (Smith et al 2003). Atopic individuals may also have more severe acute symptoms than non-atopics (Forrester and Roth 1998), thereby increasing their chance of developing chronic HD. Hand washing is a regular feature of nursing work and the irritant properties of water and disinfectants are well known (Tsai and Maibach 1999; Larson et al 1997; Nilsson and Bäck 1986).

Previous authors have suggested that the actual number of hand washes performed per work shift directly influences the risk of developing HD (Smith et al 2003; Forrester and Roth 1998; Larson et al 1997). Similarly, we found that HD risk increased linearly with increased hand washing frequency. That is, the more often nurses washed their hands the more likely they were to develop hand dermatitis. However, unlike Smith et al (2003), Forrester and Roth (1998) and Larson et al (1997), we were unable to pinpoint a definitive cut-off threshold for the phenomena. In this regard, the number of hand washes per shift deemed to be a HD risk factor is known to vary widely, ranging from 15 (Smith et al 2003) to 35 (Forrester and Roth 1998) per work shift. Our result also suggests that a truly 'safe' threshold is difficult to define with respect to hand washing frequency.

It is fair to acknowledge that the current investigation had certain limitations. First, all diagnoses of HD were based on data gained from a self-reported questionnaire. Although such methods cannot always substitute for medical diagnosis by a dermatologist, other research has shown that they may provide an estimate accurate enough for epidemiologic research (Smit et al 1992; Berg 1991). Furthermore, we believe that hospital nurses, as educated health professionals, have a reasonable understanding of skin disease symptoms and would be fairly accurate in their self-reporting behaviour. Cultural differences may have affected symptom reporting behaviour among the nurses in Australia compared to nurses from other countries such as Japan. This latter point is a particularly important consideration when comparing international studies and will not be rectified until standardised HD testing methods can be made available throughout the world.

Response rate may also have resulted in selection bias. It may have occurred for various reasons (including time constraints, unexpected short-term leave, deployment and other organisation factors), even though many strategies to improve response rates were used (Edwards et al 2002). Most importantly, these strategies included: a) the use of a short questionnaire; b) an anonymous questionnaire; c) covering a topic which was of interest to the participants; and, d) the fact that this study clearly originated from a university rather than a commercial enterprise.

Nevertheless, our eventual low response rate may have influenced the overall reported HD prevalence, although it is unwise to speculate in what direction (lower or higher) this may have occurred. To rectify the issue, future studies need to be conducted over longer periods of time to ensure that larger and more inclusive cohorts are sampled. A further issue that may have contributed bias was the exclusion of six male staff. This measure was considered necessary to avoid statistical confounding during data analysis. If male nurses were significantly different from females, the end result may not truly reflect the overall situation of HD within this particular hospital. However, as the excluded group comprised less than 3% of the total hospital nurse demographic, we considered it appropriate to undertake this exclusion.

CONCLUSION

Overall, our study indicates that HD is relatively common among nurses in Australia working in a tropical environment, and that its prevalence is relatively stable across hospital wards. The burden of HD within this unique setting appears to be higher than that reported in other international reports. A history of allergic skin rashes and regular hand washing at work were identified as statistically significant risk factors, both of which are consistent with previous investigations. Despite the limitations of our research methodology, we have documented the prevalence of HD among hospital nurses in Australia working in a regional tropical environment for what appears to be the first time. Further research is required to establish the nature and distribution of HD among nurses in other geographical locations within Australia and in regional and tropical environments.

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NURSES' PERCEPTIONS OF PATIENTS' REQUIREMENTS FOR NURSING RESOURCES

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ABSTRACT

The study used semi-structured interviews in an interpretive research design to explore nurses' perceptions of patients requiring disproportionate amounts of nursing resources, and factors influencing those perceptions. A total of 50 senior nurses from a variety of medical and surgical settings, including a high dependency unit, were interviewed and the data analysed to determine common themes and differences between participants.

The four major themes of patient characteristics, family needs, staffing and organisational context defined the factors nurses perceived as influencing their perceptions of patients' dependency. Patient requirements for nursing resources were seen as a continuum rather than a specific point, and were balanced on the combined influences of the four themes. At times, demands imposed on nursing resources lead to nurses' perceptions of delivering less than ideal care, stress and frustration. The latter applied particularly to factors that were outside of the control of nurses such as staffing levels and skill mix.

INTRODUCTION

Health and illness can be considered as a continuum, ranging from perfect health to life-threatening critical illness. To facilitate the management of illness in hospitals, care and work has been divided into specialist areas and, while this may have conferred advantages, concentrating equipment, skills and expertise, it has also created a gulf between the care available in such areas and the general ward. Matching patients' requirements for nursing care and resources to the continuum of illness can break down resulting in more acutely ill patients being cared for on the already hard-pressed general wards (Ridley 1998).

LITERATURE REVIEW

Nursing requires a dynamic interplay of biological, sociological and psychological science and art to provide optimum patient care. Nursing care and work is more than a set of tasks and actions. Nursing work can be seen as a therapy, where the quality of nursing care and work has a direct therapeutic effect on the well-being and recovery of the patient (Barr and Bush 1998). Nurses identify the type and severity of patients' needs during their interactions with patients and, from this, nursing care is planned, prioritised, and implemented (Morse 1991; Barr and Bush 1998). The crucial importance of the nurse-patient relationship is well recognised as nursing care deals with the most personal aspects of an individual over a 24-hour period and results in a unique relationship developing between nurses and patients (Morse 1991; Rundell 1991; O'Connell 1998; Williams 1998).

High dependency units have been developed to provide a level of care intermediate between that provided in an intensive care unit and that level of care which is available in a general ward. Staff in high dependency units monitor and support patients with, or likely to develop, acute (or acute on chronic) single organ failure. Medical diagnosis and patient acuity generally define admission to such units (Clarke 1996; Elliott 1997).

The key feature of high dependency unit patients is that they require close observation and monitoring such as hourly vital signs, fluid status monitoring, frequent and/or multiple intravenous medications, rather than direct intensive medical and nursing interventions. This close monitoring is designed to reduce or avoid complications, improve patient outcomes and reduce overall hospitalisation requirements and costs (Clarke 1996). Measures of patient acuity, however, do not necessarily align with nursing workload nor do they account for the continuous assessment, planning, implementation and evaluation required to care for high dependency patients (Endacott and Chellel 1996; Needham 1997).

Nursing work includes not only directly observable behaviours but, also, such aspects as knowledge, experience, beliefs and values. Furthermore, focusing on the physical state of the patient, measuring what is done instead of what needs to be done, may ignore unmet patient needs and therefore not encompass the complexity of nursing activities and work (Endacott and Chellel 1996; O'Connell 1998). Nursing work extends beyond the patient to their family and significant others encompassing areas such as discharge planning and coordination of the multidisciplinary health team for associated family assessments and treatments (Adams et al 1995; Endacott and Chellel 1996). The practice of nursing includes physical, emotional and intellectual work designed to meet complex and multifaceted patient needs (Chaboyer and Creamer 1999).

Extensive research has been conducted on the needs and experiences of patients' family members. For example, studies have demonstrated that the partners of myocardial patients are at high risk for a wide range of psychological and physical effects. These include fears for the partner's life and health, of financial devastation, of altered family and social relationship, of ability to cope with lifestyle changes, of failing personal health and strength (Hilbert 1994; Theobald 1997; Kettunen et al 1999). High levels of psychosocial support are often provided to families by nurses in general ward settings (Gibson 1997). Studies also indicate that family's needs may fall into three areas: confidence in the care the patient is receiving, support in coping with the patient's illness, and support for maintaining family functioning (Kettunen et al 1999; Ramitru and Croft 1999). Nursing staff are in an ideal position to meet the acute needs of the patient's family through providing education and demonstrating excellent patient care, assisting family members to recognise and attend to family needs, providing family members with appropriate opportunities to care for the patient, and offering counselling and referral to support services and other resources (Burr 1998; Kettunen et al 1999; Ramitru and Croft 1999). Relatives and patients regarded good nursing as individualised patient care based on mutual respect, which anticipated and related to patient needs. The care was offered willingly and included open communication (Attree 2001a). Nurses' perceptions of spending a lot of time on family and relative support as an important part of nursing work might be an ideal that was not borne out in reality when observed patterns of nursing care paid little attention to patients' families (Pearson et al 1999).

Aiken et al (1997) reported that there has been very little linkage of research into patient outcomes and organisational factors. Yet, nurses are the single largest number of health care professionals and represent one of the primary forces of clinical intervention. Staffing ratios and skill mix have been linked to adverse events and mortality rates but little effort has been expended to explain any possible correlations. Nonetheless, restructuring affects skill mix and nurse staff ratios with consequences on patient outcomes (Aiken et al 1997; Kovner et al 2002). Decreasing resources, increasing patient acuity concomitant with increasing workloads appear to be a certainty and any system needs to be able to account for accurate definition and quantification of nursing resource requirements (Graf et al 2003). Adams et al (1995) and Attree (2001b) listed several factors as influencing nursing care and outcomes. These included, for example, nurses' characteristics, in particular nurses' level of experience and competence, nurses' perceptions of their autonomy, leadership skills, relationships and staffing levels and working conditions such as level of afforded decision making capacity, resources, physical ward environment and organisational support.

Patients requiring high levels of nursing resources force conflicting demands on nurses. Attempting to meet the acute needs of highly dependent patients while attending the legitimate demands of the majority of patients, leads to inappropriate or less than ideal care for all concerned (Clarke 1996). Inappropriate demands on nurses and inappropriate care provided to patients contribute to high levels of job stress and to feelings of frustration, inadequacy, self-doubt, lowered self-esteem, irritability, hopelessness, depression and burnout (Kennedy and Gray 1997; Barr and Bush 1998; Williams 1998; Tovey and Adams 1999; Stordeur et al 2001).

Further areas of stress in nursing included: high workload; emotional and ambigous demands, uncertainty of patient outcomes, varying levels of knowledge and experience; patient aggression and supervision; inability to provide appropriate patient care; communication on the unit; floating between wards; resource constraints; increasing administrative loads; and conflicts with physicians and other nurses (Adams et al 1995; O'Connell 1998; Tovey and Adams 1999; Attree 2001b; Stordeur et al 2001).

Budgetary cuts and economic rationalisation are factors which have lead to nurses' frustration and concern about their ability to deliver quality care (Williams 1998; Tovey and Adams 1999; Attree 2001b; Jones and Cheek 2003;

Sand 2003). Furthermore, only abundant or sufficient time allowed nurses to deliver quality nursing care. When there was insufficient time available, nurses were unable to consistently provide quality nursing care to all their patients. This resulted in nurses reporting increased levels of stress and dissatisfaction with work (Williams 1998; Healy and McKay 2000; Lambert and Lambert 2001; Jones and Cheek 2003; Severinsson 2003).

The physical and psychological sequelae of high levels of stress experienced by nurses have been well described in the literature. This stress carries costs for the employing organisation through absenteeism, staff conflict and rapid staff turnover (Kennedy and Gray 1997; Tovey and Adams 1999). Furthermore, the negative impact of job stress on the nurse and the organisation may directly and indirectly affect the quality of nursing care provided to patients and patients' families (O'Connell 1998; Williams 1998; Tovey and Adams 1999).

Much is known regarding the physical, emotional and intellectual attributes required to provide nursing care (Adams et al 1995; Clarke 1996; Endacott and Chellel 1996; O'Connell 1998; Chaboyer and Creamer 1999). Several studies have explored the major stressors experienced by nurses and the results of these stressors in nursing staff (Kennedy and Gray 1997; O'Connell 1998; Williams 1998; Tovey and Adams 1999; Healy and McKay 2000; Lambert and Lambert 2001; Strachota et al 2003). Nurses' own perceptions of their work and patient-related workload issues are, however, not clear. This study explores nurses' perceptions of patients requiring disproportionate amounts of nursing resources, across a range of acute care medical and surgical environments, and including the multiple facets of physical, emotional and intellectual labour.

THE STUDY

Aims

The aims of this study were to:

- Explore nurses' perceptions of the characteristics of patients requiring a disproportionate amount of nursing resources.
- Describe factors influencing these perceptions, including differences between wards.

METHOD

The study used semi-structured interviews in an interpretive research design. The study was approved by the clinical research ethics committee.

Sample

Sampling was directed towards suitable cases, rather than random sampling or large numbers (Sarantakos 1993). Purposive sampling was appropriate for this study to gather a rich description of the experience of recovery from those nurses best able to provide such data.

Sampling was conducted in two stages. First, wards representative of the broad scope of nursing practice in a major acute care hospital were selected as settings for the study. These wards included cardiac, orthopaedic, acute medical, surgical, high dependency, and renal specialty patients. Nursing staff on targeted wards were informed about the study during regular ward inservice meetings and by means of fliers posted on the wards.

Next, senior nurses in charge of shifts were invited to be interviewed. These nurses all had extensive clinical experience in their specialty ward area and frequently had undertaken post-basic education in their specialty area. In their charge role, these senior nurses were aware of the condition of all ward patients and responsible for assigning staff workloads on their shifts.

Data collection

Nurses' perceptions of patients requiring a disproportionate amount of nursing time were sampled using focused one-to-one interviews. Focused interviews are used for respondents familiar with the research topic in order to gain information about their subjective perceptions. The structure of the topic is known but answers cannot be predicted (Dane 1990).

Interviews of approximately five to 15 minutes took place over a period of three months. Fifty registered nurses representing all shifts and all days of the week were included in the interview schedule. The interviews focused on nurses' generic descriptions of patients requiring disproportionate amounts of nursing time, any outstanding examples of such patients they recalled, and examples of such patients currently being cared for on their wards.

All interviews were conducted by members of the research team and notes were taken in the field. Prior to commencement of any interview, the nurse involved was asked to confirm consent to participate in the interview process and to sign an informed consent if she or he had not already done so.

Data analysis

Interview notes and verbatim quotes were analysed for common themes and for differences between participants. Using the qualitative technique of constant comparison, data analysis was commenced concurrently with data collection (Strauss and Corbin 1990). This strategy provided the opportunity to follow up on themes that were identified in earlier interviews and seek confirmation of emerging similarities or differences between the roles. The research team met regularly during data collection and analysis to discuss data interpretation, collate responses, and determine directions for upcoming interviews. Discussion and interpretation continued until all members of the team were confident that the themes identified accurately reflected the participants' comments. Data collection continued until saturation of categories was achieved.

FINDINGS AND DISCUSSION

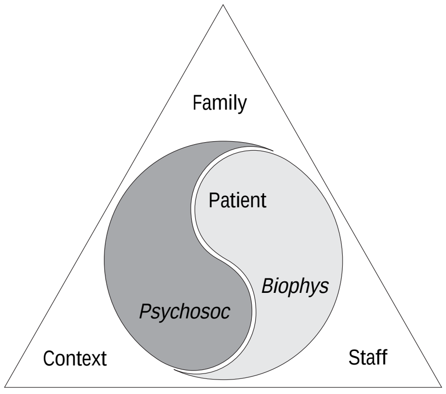
The data analysis yielded four broad categories of issues that nurses perceived as influencing patients' use of nursing resources:

1. patient characteristics (biophysical, psychosocial),
2. family needs,
3. staff issues, and,
4. contextual influences.

The four major themes of patient characteristics, family needs, staffing and organisational context defined the factors nurses perceived as influencing their perceptions of patients' dependency. Patient dependency was seen as a continuum rather than a specific point, and was balanced on the combined base of the four themes (see figure 1). Comments from the field notes taken during the interviews are presented in italics.

Figure 1: The nursing care requirement balance

Perceived patient requirements for nursing resources



Patient characteristics

Patients who require disproportionate amounts of nursing time were divided into two complementary areas: biophysical characteristics and psychosocial characteristics. Although these characteristics sometimes occurred independently, more often they were found together.

Biophysical

Nurses readily and immediately identified extensive biophysical needs as characteristic of those patients requiring disproportionate amounts of nursing time. Initial interview comments, regardless of the specialty of the ward, were invariably linked to the acuity of the patient's illness and often referred to medical diagnosis:

- *Patient may be unstable, especially first day post-op or post procedure or on admission. Following angiography/ angioplasty, thoracic surgery, or extensive gastric surgery. Patient with unstable angina, asthma, hypoxic, or bleeding…*
- *May require frequent monitoring, may have multiple lines and procedures occurring at the same time, ie. frequent antibiotics.*
- *Fractured neck of femur mobilisation requires two to three support people. Need increased resources because [we] want to enhance outcomes for patient; for example, not to use the mobiliser, which will not help bone density but rather the idea is to get patient involved.*

Participants' comments indicated that characteristics associated with patients requiring disproportionate amounts of nursing resources included: biophysical instability, complex treatment regimes or isolation. Elliott (1997) and Clarke (1996) noted that patients placed in high dependency units often required close observation and monitoring rather than direct intensive nursing interventions. Participants in this study described the same close monitoring requirements in general medical and surgical wards as well as in the designated high dependency unit. At times, the boundaries between general and high dependency wards were blurred and indistinct as matching of care to the continuum of illness broke down resulting in more acutely ill patients being cared for on already hard-pressed general wards (Ridley 1998).

Psychosocial

Specific psychological problems that nurses commonly associated with patients requiring disproportionate amounts of nursing resources included confusion, dementia, disorientation, restlessness, aggression or lack of cooperation. Depression, unrelieved pain and anxiety were also commonly identified problems for these patients and the nursing staff. Elderly patients, and patients admitted following drug overdoses, head injuries or trauma, often required extensive nursing work and time:

- *Trauma, especially young patients regarding coping, requires social 'just chatting'; family needs lots of time.*
- *Frequently hospital patients needing pain relief can be very demanding, for example, chronic pain and families [of patients with chronic pain].*
- *Non-compliant patient, confused or physically aggressive, may need restraint even while doing minimal care.*
- *Aggressive, confused, multi-trauma, elderly and head injured patients in need of orientation plus these are physically sick as well. Work at the patient's pace can't be rushed; relatives can be very stressed as well.*

Gibson (1997) noted that a high level of psychosocial support frequently needs to be delivered by nurses in general settings. On the other hand, O'Connell (1998) contended that emphasis was placed on the physical aspects of care with scant appreciation of patients' psychosocial needs. The current study, however, demonstrates the high value nurses placed on the psychosocial needs of their patients, and indicated that fulfilling those needs was often a major focus of care for those patients requiring a disproportionate amount of nursing resources.

Multiple patient needs

Biophysical needs and psychosocial support often overlapped for the same patient, further increasing demands on nursing time:

- *Cardiomyopathy, acute pulmonary oedema, sick and social issues, chest pain - waiting for transplantation, terminal illnesses and social situations at home.*
- *Confused, aggressive post op patients needing constant monitoring, more staff, more time for procedures, eg, six registered nurses to restrain to keep from injury - agitated and restless.*
- *Palliative patient - high input of time, requires physical care plus related psychological care - lots of time to spend with patients to deal with death.*
- *Fractured neck of femur and demented - requires communication, requires two people for mobility/incontinence, needs discharge planning and organisation of placement.*

Participants' comments reflected not only the strong links between biophysical and psychosocial patient characteristics but also the intimate interweaving of patient and family needs.

Family

Family support needs were readily identified as a common theme influencing nurses' perceptions of patients requiring high levels of nursing resources:

- *Long-term patients with social problems, for example, elderly, depressed or head injury patients with relatives, 60% of time is spent on patients and 40% on relatives.*
- *Families of all post-op patients require explanations, reassurance, and encouragement, as all post-op patients are unstable.*
- *Relatives very stressed. For example, when patients have head injuries and are elderly, relatives of transplant patients too.*

Although increased family support needs most often occurred in the context of patients requiring high levels of biophysical nursing care, they occasionally occurred independently:

- *Spend little time with patient but lots with relatives. I intervene for relatives, might require ward coordination, it gets out of control if not dealt with.*
- *Anxious family - need to nurse family - nursing relatives not just the patient.*

Participants in this study supported previous studies in identifying the multifaceted needs of patients' families. These needs were commonly related to the patient's condition and served to reassure family members that patients were receiving appropriate nursing care (Kettunen et al 1999; Ramitru and Croft 1999). The current study and earlier research have also described families need for counseling and referral to support services as noted by previous researchers (Burr 1998; Kettunen et al 1999; Ramitru and Croft 1999; Attree 2001a).

Participants in this study, however, also described the high levels of nursing resources required to meet these diverse family needs, stating that family support could comprise 40% of their nursing workload in some cases. This finding is not supported by previous research and, in light of Pearson's et al (1999) study demonstrating the gap between nurses' perceptions of their work and observed measures, may require further study.

Staff issues

The first two themes participants' identified as influencing nurses' perceptions of patients' requirements for high dependency nursing care focussed on patient and family needs, however, a large number of comments addressed issues related to staffing levels and expertise, that is 'skill mix', of staff on the ward:

- *Senior staff members are given the high dependency patients because they are able to prioritise workload and delegate work more effectively than junior staff. This is emotionally draining for senior staff.*
- *In wards which don't get extra staff to cope with high dependency patients, increased stress from overall workload [results], plus realities of shift work for example late-early which is draining.*
- *Patient problem is outside the usual scope of practice. For example, a Below the Knee Amputation on a cardiac ward and hourly rebandaging of skin graft is required.*

Nurses observed that the ward was better able to accommodate patients demanding of nursing time and energy when there was a high proportion of senior staff with knowledge, skill and experience in the specialty area. In addition, stress experienced by the nursing staff was reduced. If, however, there were a number of junior staff, too few staff, or staff unfamiliar with the ward, for example agency or relieving nurses, the additional patient demands were not readily accommodated and led to a perception of disproportionate nursing requirements for some patients, which may not have been the case if adequate support or time would have been available

(Healy and McKay 2000; Attree 2001b; Kovner et al 2002). These comments supported the conclusions of Kennedy and Gray (1997), O'Connell (1998) and Williams (1998), demonstrating that nurses' perceptions of patient dependency may be determined not only by factors directly related to patient care but also by those unrelated to direct patient needs.

Some participants in the current study mentioned individual or personal factors, for example family concerns, lack of sleep or personal role expectations, as influencing their ability to cope with work demands. These factors may also have influenced nurses' perceptions of patients requirements for a disproportionate amount of nursing resources. These themes, however, were not specifically addressed during the interviews nor were they saturated in the data. This is an area requiring further research.

Organisational context

Finally, there were comments reflecting nurses' perceptions not of the patient, family or staff, but of the organisational context in which the nursing care was delivered:

- *Receiving ICU patients - paging medicos, clarifying notes, following up undone tasks, coordinating patient's care, chasing equipment.*
- *Usually rushed through general wards - transfer to high dependency unit left to last minute when patient is very unstable rather than earlier which affects both patient and other patients who are neglected.*
- *Staffing levels, experience and type of work influence perception of high dependency nursing care.*
- *Degree of familiarity with equipment and procedures.*
- *Chasing support and equipment.*
- *A busy ward leads to minimal nursing time with patients, need more staff.*

Staffing levels and support from other staff were often identified as factors important in the perception of workload and quality patient care (Aiken 1997; Attree 2001b; Jones and Cheek 2003). When the ward was busy and not well staffed, there was too little time available for patients and nurses were unable to consistently provide quality nursing care to all their patients, which led to expressions of stress and dissatisfaction (Williams 1998; Healy and McKay 2000; Lambert and Lambert 2001; Stordeur 2001; Sand 2003; Severinsson 2003; Strachota et al 2003). These factors were also noted in previous research (Adams et al 1995). However, in contrast to previous studies, professional relationships and leadership were not mentioned at all by nurses in this sample.

In addition, the computerised acuity and patient care database, Excelcare, was perceived by some participants to increase nursing resource requirements, especially those of complex patients:

- *Excelcare - can't find appropriate units of care, lack of time to complete, need to adjust to compensate, units of care wanted don't exist.*
- *Not enough computer terminals to access Excelcare when limited time is a problem.*
- *Excelcare doesn't accurately reflect amount and delivery of comprehensive nursing care due to lack of time and staff to fill in completely.*

O'Connell (1998) reported that lack of time influenced the quality and accuracy of documentation. Excelcare or other data systems may not be regularly updated therefore may not reflect the care and complexity of the patients' conditions. Graf et al (2003) outlined the requirements of a system to accurately define and determine nursing resource requirements reflecting, among other factors, patients' acuity. The notion that there is a successful prescription for determining appropriate numbers of nurses is questionable based on increasing evidence of ineffectiveness (Adams et al 1995; Endacott and Chellel 1996).

Organisational context issues external to the health care agency most frequently related to student educational needs, including students from a variety of health care professions and universities. These student needs influenced nurses' perceptions of the nurses' ability to meet patient care requirements by competing for the limited staff time and energy available:

- *Communication with physiotherapy, nursing and overseas students - increasing numbers, they don't fit in with routine, need monitoring for patient contact and explanations.*
- *[Students have an] uncertain knowledge base and [require] support.*
- *Juniors and students require supervision, which adds to the pressure.*

Although there has been considerable discussion of the financial costs and benefits associated with delivery of tertiary-based nursing education, there is little research on which to base any informed decisions. In particular, further research is required to explore the impact of clinical supervision on nurse-patient interactions, nursing productivity or stress experienced by the registered nurse.

SUMMARY

Patient characteristics were dominant in nurses' perceptions of patients consuming a disproportionate amount of nursing time. Although for some types of patients, for example, those with head injuries or complex monitoring needs, biophysical needs increased the demands on nursing resources. Nurses also commented frequently on the time and energy required to deal with patients with increased psychosocial needs, for example, confused patients requiring frequent reorientation and explanations, or young trauma patients requiring assistance in coping with their changed circumstances. Nurses' perceptions were remarkably consistent from ward to ward, with similar types of patients consistently described across all the study settings.

Other identified influences on nurses' perceptions of the factors affecting nursing time required by their patients related to family needs, staff issues and organisational context. Increased family needs were often associated with the patients whose biophysical and psychosocial characteristics placed them at the high end of the nursing resource requirement continuum. However, on occasion increased family needs could be independent of patient characteristics.

Staff issues, including staff numbers and expertise, also influenced nurses' perceptions of patient needs. If the ward was short of nurses, or the available staff were relatively inexperienced, patients who might otherwise be considered fairly low dependency were perceived as highly demanding of the limited nursing resources.

Contextual influences competing for use of nursing resources also shaped nurses' perceptions. Influences internal to the agency included communication and administrative processes, as well as equipment and human resources to support patient care. The most commonly noted external influence was student placements, with increased demands on both nurses' time and energy.

Nurses saw these major categories as interacting to determine where, on the continuum of nursing resource requirements, they perceived their patient to be balancing at any specific time.

LIMITATIONS

The limitations of this study include those inherent in all interpretive research, which could have introduced interviewer as well as interviewee bias. In addition, the sample population may not have been representative of nursing staff, patients, or nurses' perceptions of those patients although the reasonable sample size (n=50) and two stage sample enrolment served to recruit those nurses best able to provide the data.

The study was conducted over a three-month period, which might have been too short a time to discover significant parameters of patients requiring a disproportionate amount of nursing resources. There was no attempt to differentiate responses on the basis of either nurses' or patients' demographic data; it may well be that the findings of this study would vary in such subgroups. Patients' and families' views and perceptions were not a part of the research design, yet constitute an important domain in the interpretation of this study. Finally, as with all qualitative data, the findings are not necessarily generalisable to other samples but should be considered in relation to their applicability in a variety of contexts.

IMPLICATIONS FOR PRACTICE

The participants in this study were in strong agreement regarding the implications of caring for patients requiring a disproportionate amount of nursing time in a general ward setting:

- *It all takes extra time, which reduces time for other patients.*
- *Disruption to other patients when nursing high dependency patients requires more attention.*
- *Technology comes first - psychosocial issues are left until later if there is time.*
- *If patients [who require a disproportionate amount of nursing resources] are not transferred from general ward other patients get less care.*

High quality nursing care results from meeting all the patients' and family members' needs. Needham (1997, p.84) expressed concerns regarding current government health reforms in the market economy with health being 'reduced to a commodity, the patient to a consumer and workload measured through increased productivity and outcome, quantity of care rather than quality'. Such economic and bureaucratic changes may serve to compartmentalise certain aspects of nurse care such as physiological or technological, failing to recognise that biophysical and psychological dimensions are interdependent and exist within a social context including the family, staff and health care organisation.

CONCLUSION

Nursing care ranges from simple to complex, encompassing physical, emotional, and intellectual labour. The nursing role carries with it responsibilities to patients and their families, the employer, the nursing profession and wider society, placing enormous and sometimes conflicting demands on the nurse providing direct patient care. These demands may be exacerbated in caring for patients requiring extensive use of nursing resources in a limited resource environment.

Nurses in this study described the multidimensional aspects of quality nursing care, balancing the importance of biophysical interventions with the value of continuous caring awareness involving the patient, family and health care colleagues. Nurses' perceptions of patients' requirements for nursing resources and the factors influencing those perceptions provides a more rationale basis for distribution of nursing resources and may serve to improve the quality of patient care in an increasingly resource-limited health care sector. Nurses' expressed their frustration about times of excessive demands for nursing resources in general, which lead on occasions to less than ideal nursing care. Staffing levels and staffing mix, as factors outside of the control of ward staff, were mentioned specifically.

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MENTAL HEALTH ISSUES WITHIN THE GENERAL HEALTH CARE SYSTEM: IMPLICATIONS FOR THE NURSING PROFESSION

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ABSTRACT

Aim:

The aim of this paper is to briefly describe the prevalence of mental illness within the general health care population and the implications for the nursing profession.

Primary argument:

The nursing profession espouses holism as its philosophy of care. This philosophy embraces the essential interaction between the biological, psychological and social aspects of each individual. The mainstreaming of mental health services within the general health care system has increased the level of contact nurses have with people experiencing mental health problems, yet the research evidence suggests they are not confident or competent in meeting the associated needs.

Conclusion:

There is an urgent need for education of the current and future nursing workforce if the challenges presented by mental health issues are to be addressed.

INTRODUCTION

Nurses constitute the largest professional health care group, comprising 45% of full time public hospital staff and 60% of private hospital staff (Australian Bureau of Statistics 2001). By virtue of their numbers and their specific expertise: 'Nurses are in a unique position to assist their clients in achieving and maintaining optimal levels of health. Nurses understand the challenges of today's health care system and embrace the opportunity to use, wellness activities to promote health and prevent illness' (McMurray 2001).

The World Health Organisation (WHO) defined health as 'state of complete physical, mental and social well-being and not merely the absence of disease or infirmity' (1974, p.1). Health is clearly a complex concept that includes biological, social, psychological and spiritual factors, and cannot be considered in isolation from the individual and environmental factors that influence each person's life (McMurray 2001).

The fundamental role of nursing in relation to health led to the development of the concept of holism as the central philosophy for nursing. Holistic nursing care dates back to Florence Nightingale who identified the importance of the psychological and spiritual aspects of the individual when caring for their physical needs (Dossey and Dossey 1998). The provision of holistic nursing care therefore depends on the willingness and ability to address all aspects of the person within the health care system, in order to achieve the best possible health outcome.

The mental health needs of patients must therefore be seen as crucial to the provision of high quality nursing care. In this paper the prevalence of mental health issues within the general health care system and the implications for contemporary nursing practice is discussed.

IMPLICATIONS OF MENTAL HEALTH ISSUES FOR NURSING

The integration of mental health care into primary health care has become an area of priority both locally and internationally. This process, known as 'mainstreaming' is now completed in the state of Victoria, Australia, in response to the launch of the Mental Health Policy (Australian Health Ministers 1992). Mainstreaming is characterised by a fundamental shift of psychiatric services from psychiatric institutions to general health settings. Mainstreaming was intended to increase consumers' access to a quality, comprehensive health care service and to reduce the stigmatisation of and discrimination against people experiencing a mental illness (Whiteford 1998).

As a direct result of mainstreaming, nurses now have more frequent contact with people experiencing mental health problems (Sharrock and Happell 2000). However, nurses tend not to have a comprehensive understanding of the problems and needs of people experiencing mental health problems (Bailey 1998; Muirhead and Tilley 1995; Sharrock and Happell 2000). Furthermore, general nurses expressed a lack of enjoyment in caring for patients with eating disorders, schizophrenia and those who committed deliberate self-harm as the result of a mental health problem (Fleming and Szmukler 1992). A study of emergency nurses suggests they were not clear whether their role should include care for patients with mental health problems (Gillette et al 1996). Consequently, nurses have come to avoid patients experiencing mental health problems because of feelings of fear and powerlessness and the acknowledgement that attending to these patients is more time consuming (Gillette et al 1996).

Nurses in general hospitals tend to place a higher priority on physical care than on psychosocial care (Gillette et al 1996; Swan and McVicar 1990; Whitehead and Mayou 1989). It has been claimed 'basic human skills are seriously lacking in the nursing workforce today, at least in many acute settings' (Armstrong 2000, p.27). This is largely attributed to insufficient psychiatric and mental health content in undergraduate courses to prepare nurses for mental health care (Wynaden et al 2000; Happell 1998).

The prevalence of mental illness is found to be higher in hospital and other health care settings than in the general population, signifying the already substantial discrepancy between what mental health care is needed and the availability of services. Australian researchers have highlighted a great need for better mental health care services across local health care settings, including general hospitals (Sharrock and Happell 2000), parentcraft hospitals (McMahon et al 2001), nursing homes (Arie 2001; Snowdon 2001), for children and adolescents (Birleson et al 2000), and health care in general (Mott and Kingsley 1999). Similar claims have been made in Britain (Mavundla 2000). Common health care issues that drive these claims will now be reviewed.

COMMON MENTAL HEALTH RELATED PROBLEMS IN HEALTH CARE SETTINGS

A significant barrier to high quality care for people experiencing a mental illness, in all contexts, is stigma and discrimination. Negative labelling is more likely to occur in hospital settings, as patients with mental illness often exhibit behaviour inconsistent with the traditional 'sick role' (Sharrock and Happell 2000). Implications of negative labelling include the continuation of problem behaviours and occasional extreme efforts by staff to control them (Trexler 1996). So called difficult patients run the risk of being neglected or abused (Mott and Kingsley 1999; Bridges-Parlet et al 1994). In light of this, common myths and misconceptions must be dispelled and positive attitudes fostered, particularly among health professionals and workers (World Health Organisation 2001).

The psychosocial needs of people with mental illness are far less likely to be addressed if these patients are not recognised as having a mental illness. Symptoms of mental illness are commonly construed as 'normal' given the adverse situations a patient may be experiencing, such as reactive anxiety. Furthermore, it is consistently found that many people with a mental disorder present to primary care, but their condition is not detected (Roy-Byrne et al 2000; Rost et al 1998; Ronalds et al 1997; Saravay 1996; Fifer et al 1994; Kirmayar et al 1993; Ormel et al 1991). This is also the case in general hospital settings (Hansen et al 2001; Gater et al 1998; Mayou and Hawton 1986; Ammon 1983), including critical care units (Rincon et al 2001).

It has been acknowledged in North America that critical care unit nurses and physicians do not possess the skills and expertise to make diagnoses of anxiety, depression and delirium (Rincon et al 2001). Overall, it appears that for a variety of reasons, mental illness is not recognised or identified. This may be partly overcome through the application of brief screening instruments by nursing staff during patient admission (Booth et al 1998).

Even if it is recognised that a patient has a mental illness, there is no evidence that this recognition translates to acknowledgement of a greater need for care than patients without a mental health problem (Armstrong 2000). This may be partly due to a lack of understanding of the extent to which mental illness contributes to precipitating, aggravating and prolonging physical disability and illness.

Meeting the psychological and psychiatric needs of patients

Nursing constitutes the largest professional health care group, comprising 45% of full time public hospital staff and 60% of private hospital staff (Australian Bureau of Statistics 2001). Therefore, nurses are the group most in direct and indirect contact with people experiencing a mental illness and potentially play an important role in the detection of mental health problems and subsequent care (Sharrock and Happell 2000). Furthermore, as nurses aspire to a holistic model of care, they may help to balance the scales between biomedical and psychosocial support, in a complementary fashion, towards the provision of optimal quality care.

Currently, psychiatric consultation-liaison nursing (PCLN) is the primary formal avenue to increased on-the-job nurse expertise in caring for people experiencing a mental illness (Sharrock and Happell 2000). American data suggest that consultation rates are less than one tenth of reported prevalence rates of psychiatric morbidity in hospitals. European data also suggests that consultation liaison psychiatry service delivery falls significantly short of reported rates of psychiatric comorbidity (Huyse et al 2001). These findings indicate that consultation liaison nursing alone is insufficient. Improving psychological and psychiatric care for patients on a large scale will require increased training in mental health education as part of comprehensive nursing education (Clinton and Hazelton 2000; Prebble 2001). These sentiments reflect recommendations of the World Health Organisation (2001) that general health personnel be trained in mental health care skills, with mental health content included in the training curricula, as well as refresher courses.

Increased skills in attending to the mental health needs of patients would also relieve strain on the nurses themselves, including the stress of dealing with challenging behaviour such as non-adherence to prescribed medication (Hallberg and Norberg 1993) and lack of confidence (due to lack of training). Mental health care skills were noted to diminish distress for nurses caring for patients with dementia following an attitude change intervention (Hallberg and Norberg 1993).

Prevalence of mental illness in the general community

The National Survey of Mental Health and Wellbeing of Adults (Australian Bureau of Statistics 1997) found that 18% of Australians had a mental illness at some point during the 12-month period prior to survey completion. Mental illness was diagnosed with a computerised version of the Composite International Diagnostic Interview (CIDI). The National Survey of Mental Health and Wellbeing of Adults (Andrews et al 1999) estimated that at some time during a year 1,300,000 adults over 18 years of age have an anxiety disorder, 1,042,000 a substance abuse disorder and 779,000 an affective disorder. It is important to note that 62% of those with a mental disorder do not access mental health services (Australian Bureau of Statistics 1997). Therefore, general health care settings provide an opportunity for detection and intervention for clients with a mental illness, who would not otherwise receive treatment.

Prevalence of mental illness in the general health care population

General hospitals

It is not uncommon for physical and psychological problems to co-occur in general hospital patients. They may: 1) occur simultaneously, either taking place by chance or sharing a common cause (eg major life event); 2) be a complication of a physical problem; or, 3) be the cause of a physical problem (Mayou and Sharpe 1991). Maladaptive coping from experiences such as hospitalisation presumably would increase the risk of developing mental illness.

Estimating the prevalence of mental illness within the general health care population has proven problematic as the result of significant variations in methodological approach such as the use of measurement tools (Mayou and Sharpe 1991). Prevalence rates have frequently been estimated based on mental illness symptoms (self-reported or observed), rather than formal diagnoses. Symptoms of depression may be confounded with physical illness symptoms (Parker et al 2001). Selection bias effects may also lead to an underestimation of the prevalence of psychiatric co-morbidity. Estimates based on discharge diagnoses or consultation files are particularly susceptible, because: a) the psychiatric disorders are not recognised by non-psychiatric staff; b) some physicians avoid a psychiatric diagnosis for fear of patient stigmatisation; and, c) often only the most serious cases are attended to (Wancata et al 2001). Overall, these methodological shortcomings are likely to lead to an underestimation of true prevalence rates.

Prevalence rates: International

The prevalence rates of psychiatric disorders is higher in the general hospital setting (outside psychiatric wards), than in the general community (Clarke 1998; Gelder et al 1996; Patten and Fick 1993; Van Hemert et al 1993). Clarke (1998, p.410), in a brief review of psychiatric co-morbidity, reports that ‘major depression is two to four times more common in medical inpatients than in the general population. Somatization disorder, panic disorder, alcohol abuse and cognitive impairment are all about ten times more common in hospitalised patients.’ For medical inpatients Gomez (1987) estimates prevalence of psychiatric morbidity to be between 30-65%. Overseas studies of psychological morbidity in cancer patients report estimates ranging from 23% (Greer et al 1992) to 47% (Derogatis et al 1983).

Prevalence rates are likely to vary according to the type of physical illness and patient demographics. In critical care settings, given that patient admission is based on severe medical or surgical disorders, it is more likely that these disorders will co-occur with a psychiatric condition. Rincon et al (2001) assessed 96 patients from three critical care units in California. Based on the Hospital Anxiety Depression Scale, 13.7% experienced depression and 24% experienced anxiety. Using the Confusional Assessment Method, 7.3% experienced delirium. In addition, 29.2% of patients were classified as possible problem drinkers. Prevalence rates also vary according to the type and severity of the disease. Yovtcheva et al (2001) assessed 306 randomly selected hepatitis C patient records using DSM-IV diagnosis criteria. Thirty-eight per cent of the veteran patients had mood disorders, 30% personality disorders, 19% Post Traumatic Stress Disorder and 17% psychotic disorders, 86% alcohol abuse disorders and 28% intravenous drug use disorders. Prevalence rates for personality disorders among primary care patients with chronic pain range from 24-47% (Sansone et al 2001). Depression and suicidal ideation is common in acutely medically ill older patients, with prevalence rates of depression as high as 45% (Ramsey et al 1991; Koenig et al 1988).

Prevalence rates: Australia

There is less literature pertaining to physical and psychiatric co-morbidity in Australia than in Britain or the US, therefore this research will be reviewed in more detail. In an examination of medical and surgical admissions to a major metropolitan teaching hospital in Melbourne, Clark et al (1991) estimated that 30% of the sample had 'significant psychiatric morbidity' mostly characterised by depression and anxiety. Pascoe et al (2000) examined the prevalence of depression and anxiety among cancer patients in a cross-section of health services in Sydney, Australia. On the basis of the Hospital and Anxiety Depression Scale (HADS), 11.5% suffered from anxiety and 7.1% from depression. The majority of these patients did not receive any psychological treatment. According to Pascoe et al (2000, p.790), these rates suggest that for a typical metropolitan hospital, where about 110 patients attend for consultation or treatment per day, 17 significant cases of depression and anxiety (and 33 cases in total, if borderline cases are included) would be identified each day. Pascoe et al (2000) suggested that the results might not be generalisable to hospital populations as the sample consisted of people of relatively high socioeconomic status. The low prevalence rates found may also be attributed to the use of the HADS, which has been found to have low sensitivity at identifying psychological morbidity, in some cases (Hall et al 1999).

Kissane et al (1998) found that for women recently diagnosed with primary -stage breast cancer, 42% were diagnosed with a psychiatric disorder, most commonly depression and anxiety. This was a particularly substantial proportion given the low pain and disability and relatively good prognosis. Selection bias may explain the high prevalence, as patients were informed of the possibility of group psychological intervention for taking part, and 38% of the patients initially approached declined to participate in the study.

Intentional self-harm accounted for 25,260 separations in public hospitals and 1,477 separations in private hospitals (Australian Hospital Statistics 1999-2000). Dhossche, Ulusarac and Syed (2001) found retrospectively that suicide rates for general hospital patients were close to three times more common in general hospitals than in the general population. Cases of deliberate self-poisoning constitute about 10% of medical admissions in Australia (Henderson et al 1993). Also, patients who attempted suicide make up 3-5% of major intensive care admissions in Melbourne (Bailey 1998). Overall, from the limited data available, Australia does not appear to differ from other countries in the level of prevalence of mental illness in hospital settings.

Specific health care settings

Prevalence of mental illness higher than that expected within the general population has been identified in a variety of health care settings. Prevalence of depression for mothers admitted to residential parentcraft units ranged from 39% (Barnett et al 1993) to as high as 86% (Armstrong et al 2000). Nursing homes have particularly high rates of psychiatric illness, due in part to the closure of long-term care services in hospitals, the consequent relocation of people diagnosed with dementia to nursing homes, and the rise in typical severity of physical impairment experienced by nursing home residents (Snowdon 2001). Prevalence of dementia has been reported to be higher than 80%, with 25-50% of those with dementia exhibiting psychotic symptoms (Rovner and Katz 1993). Australian reports indicate similar prevalence rates. A study of nursing home residents from a Sydney district indicated 80% had cognitive impairment (Snowdon et al 1996), 30.4% had depression (Snowdon et al 1996), and 11.2% had a generalised anxiety disorder (Cheok et al 1996).

Many individuals with mental illness use general medical services in place of mental health care. Cross-cultural studies by the World Health Organisation (2001) examined the prevalence of mental disorders in primary care settings, using screening instruments and clinical and psychiatric diagnoses. It was found that almost one in four patients that attended primary care had a mental disorder. Depression, anxiety and substance abuse were the most commonly recognised disorders.

Overall, the literature provides extensive evidence that the prevalence of mental illness is high in the general community, but even higher in general health care settings, especially hospitals and nursing homes. While numerous methodological problems common to epidemiological research were encountered in these studies, those studies with a stronger design (eg Booth et al 1998), including random sampling of patients, use of diagnostic criteria and large sample size, were generally consistent with the wider literature when accounting for lifetime episodes of mental illness.

Mental illness and disease burden

Globally, mental illness accounts for almost 11% of the total disease burden (Murray and Lopez 1998, cited in National Action Plan 2000). In Australia, mental disorders caused 13% of the total disease burden in 1996, and accounted for about 30% of the non-fatal burden (Australian Institute of Health and Welfare 1999). Based on Years of Life lost due to Disability (YDL), mental disorders are the leading cause of non-fatal health outcomes, followed by nervous system and sense organ disorders (Mathers et al 1999). Furthermore, mental disorders account for 55% of the total disease burden for young adults (Mathers et al 1999).

In 1996, depression was the second leading cause of disease burden, second only to ischaemic heart disease for adults aged between 25-64 years, and the leading cause among females (Mathers et al 1999). Among older Australians, senile dementia is the leading cause of burden of disease after ischaemic heart disease and stroke. In terms of the burden of mental illness, substance use disorders are the major cause among men (33%), while for females almost the entire mental health DALYs (Disability-adjusted life years) may be attributed to depression (87%) (Mathers et al 1999). Mental illness is responsible for 0.8% of all deaths, 1.4% of years of life lost, and 27.2% of YDLs - signifying that mental illness is not a direct cause of death but a substantial cause of chronic disability (Mathers et al 1999). Home-based individuals with a chronic disease are more likely to have a psychiatric disorder than individuals without chronic disease (Wells et al 1991; Wells et al 1989a; Wells et al 1989b).

Mental illness and mortality

Mortality rates, a key indicator of population health (Davidson et al 2000) strongly suggest that mental illness is associated with significantly poorer health, even after controlling for death through unnatural causes (Ruschena et al 1998; Brown 1997). Cardiovascular and respiratory diseases are more likely to lead to mortality among the mentally ill (Davidson et al 2000). Frasure-Smith et al (1995) found that for patients with myocardial infarction, depression is a significant predictor of mortality at six, 12 and 18-month follow-ups.

Mental illness is not generally recognised as a high risk factor for mortality, because its link to mortality is not as clear as that of physical disease. However, mental illness is frequently an indirect cause of death, because it heightens chronic disability, is associated with bad health habits including inadequate diet, alcohol abuse, smoking and sedentary lifestyle (Davidson et al 2000; Glassman 1993) and therefore contributes to disease onset and severity. Therefore, while mortality rates are a handy measure of health burden, recognition only of mortality leads to a serious underestimation of the amount of non-death related burden contributed to mental illness (Goldney et al 2000).

Most research linking mental illness and physical illness has focused on the influence of depression (Booth et al 1998). Depression is the fourth leading cause of disease and disability in the world (World Health Organisation 2001). In Australia, there is substantial evidence that major depression is associated with a high level of morbidity (Henderson et al 2000; Andrews et al 2000; Mathers et al 1999). A representative study in South Australia found those with depression reported a diminished level of physical functioning, including physical illness and difficulties with independent living (Goldney et al 2000). In Australia, disability (as assessed by the number of days spent out of role) is higher for people with co-morbid mental and physical illness, than for people with any one illness alone (Andrews et al 1999).

IMPLICATIONS FOR NURSING

As nurses have more contact with patients than any other health care provider, they could potentially play a central role in the detection of problem behaviours and concurrent mental illness. The issue however is far more complex than merely one of numbers. Research conducted by Silverstone (1996) found that nurses were more proficient than medical staff at identifying patients who had received a DSM-IV diagnosis, recognising 61% of cases compared with 41% for medical staff. These findings further support the potential value nurses may contribute to general health care, provided they receive adequate training for this role.

Detection alone may not translate into improved outcomes for those patients affected without appropriate management of the illness (Nisenson et al 1998; Rost et al 1998). Due to the close relationship nurses have with patients, they are the main source of encouragement for proper self-care and physical activity. Emphasis on physical activity is of particular importance, given evidence that physical activity appears to lower levels of depression and anxiety (Paluska and Schwenk 2000).

Koch (1999) describes nursing practice as undergoing rapid change, with mental health care issues emerging as a crucial challenge for nursing education. To create greater synchronicity between mental and physical health care is a general goal in the global effort to provide a more responsive health care system for people experiencing a mental illness (World Health Organisation 2001).

The important role of nursing in addressing the mental health needs of patients across all health care settings is clearly crucial to its holistic philosophy. Indeed, if the nursing profession is to uphold this philosophy as more than just rhetoric, the meeting of mental health care needs must be embraced enthusiastically.

The literature discussed in this paper suggests that the nursing profession is not currently positioned to perform this important role. Strategies are required to address the knowledge, skill and attitudinal deficits that currently impede a comprehensive approach to mental health issues. The education of both current and future nurses must be viewed as an important step to rectifying the current problem.

CONCLUSIONS

Mental illness is clearly recognised as a major health problem for the Australian community. The content of this paper demonstrates that the prevalence of mental illness and related mental health problems is significantly higher within the general health care system than it is within the broader community.

Attending to patients' mental health needs is not just a matter of duty of care and promoting well-being; the research reviewed provides substantial evidence that mental illness has a significant adverse influence on the course and outcomes of physical illness, including increased mortality. Higher rates of mental illness in hospital patients may be largely explained by bio-psychosocial perspectives. However, regardless of whether one endorses bio-psychosocial models of illness, the strong association between mental illness and physical illness has practical implications. Lowering mental illness rates is likely to translate into better physical health outcomes.

As mental illness is common in the general health care system, psychological intervention is a key priority for improvement (Wynaden et al 2000). This is more so, given that medical and psychiatric co-morbidity is expected to rise rapidly with the ageing population, over the coming decades. Adequate mental health education for all nurses is a feasible strategy towards the improvement of general mental health services and promoting the importance and value of mental health nursing as a specialised career. An adequate compulsory component is founded on the inevitability that all nurses will be caring for patients with a mental illness, no matter what type of health care setting they find themselves in. Upon entering the work setting, nurses may further build on attitudinal and educational benefits already established at the undergraduate level.

Nurses can play a central role in lowering prevalence and burden of mental disorders by broadening the scope of care, contributing to consumers' empowerment, reducing the levels of stigma and discrimination in the hospital setting and engaging in simultaneous assessment to increase detection rates. That they do so is crucial for the best possible standard of nursing care.

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HOW TO RECOGNISE A 'QUALITY' GROUNDED THEORY RESEARCH STUDY

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ABSTRACT

Background:

The quality of a research study is a key issue for clinical practitioners committed to the delivery of 'best-practice' patient care. With the increasing use of grounded theory in nursing research, attention is now focusing on the quality of studies using this research methodology. Indeed, within the growing body of grounded theory in nursing some methodological problems are emerging that raise questions about the quality of the research.

Aim:

This paper recognises that clinical practitioners need to be critical readers of grounded theory research, so that they recognise 'quality' research studies and can develop their clinical practice based on sound research findings.

Conclusion:

Grounded theory should be viewed as a package of research methods that includes the use of concurrent data collection and constant comparative analysis, theoretical sampling and memoing, all of which can create an awareness and an appreciation of the scientific merit required of grounded theory research and promote quality standards relating to research practices in grounded theory methodology.

INTRODUCTION

The quality of research studies is a key issue for clinical practitioners committed to the delivery of 'best-practice' patient care. With the increasing use of grounded theory in nursing research, attention is now focusing on the quality of studies using this research methodology.

The evidence suggests that there are problems with how the research methods are being used and this raises concern regarding the credibility of grounded theory studies in nursing (Wilson and Hutchinson 1996; Benoliel 1996; Becker 1993). As consumers of research, clinical practitioners need to be able to evaluate grounded theory studies is order to make decisions about whether to apply the research findings to the delivery of patient care. When reading published grounded theory research, nurses and midwives need to know how to recognise a 'good' quality research study and understand grounded theory in terms of how the methods used can impact on the quality of research findings.

While there have been numerous developments in the area of research quality resulting in a range of different criteria against which the standard of research can be judged, it is unclear which criteria should be used. However, more recent developments suggest that those who read and conduct research need to engage the quality issue at a more practical level by considering how the research methods themselves can contribute to the quality of the research study. In relation to grounded theory, this requires that nurses identify essential features of grounded theory research and the link between the research methods and the quality of the research study.

Grounded theory and nursing research

Grounded theory is a general research method, which provides for the systematic generation of theory from data acquired by a rigorous research method (Glaser and Strauss 1967). The co-originators, Barney Glaser and Anslem Strauss, developed grounded theory in the 1960's while researching dying patients in hospitals. The publication of '*Awareness of Dying*' in 1965 provided the first account of the grounded theory methods and marked the introduction of this research approach as an alternative to other more established research approaches.

With its origins in sociology, grounded theory emphasises the importance of developing an understanding of human behaviour through a process of discovery and induction rather than from the more traditional quantitative research process of hypothesis testing and deduction. A grounded theory approach provides nursing with a viable means of generating theory about dominant psychosocial processes that present within human interactions, indeed, theory that is grounded in the realities of everyday clinical practice (Streubert-Speziale and Carpenter 2003).

Since its introduction in the 1960's, grounded theory is increasingly being used in research practice, particularly in nursing research. Glaser and Strauss began their collaborative work in the University of California to help guide nurse students in their research. Since then, grounded theory has been used to study a wide range of issues in different practice settings such as: clinical judgement in mental health nursing (Martin 1999); experiences of men during their partner's pregnancies (Donovan 1995); the quality of nursing care in acute-care hospitals (Irurita 1996); managing depression among black West Indian Canadian women (Schreiber et al 1998); and, restructuring life for fire victims (Stern 1996). This rather diverse literature base reveals that grounded theory is applicable to a wide variety of issues relevant to clinical practice and that it can make an important contribution to the development of a theoretical base for clinical nursing and midwifery practice.

However, within the growing body of grounded theory in nursing some methodological problems are emerging that raise questions about the quality of the research (Wilson and Hutchinson 1996; Benoliel 1996; Becker 1993). Becker's (1993) analysis of published grounded theory studies, identifies the methodological problems of researchers borrowing parts of grounded theory and not adhering to the critical components of this approach. For example, Becker found that some researchers carried out the data analysis at the end of the data collection while others failed to differentiate between theoretical and purposeful sampling. Whilst it is recognised that grounded theory methods can be used to analyse a variety of research from differing paradigms, research claiming to be a grounded theory study must follow specific grounded theory methodology. Moreover, Benoliel (1996) is also critical of the use of grounded theory in nursing research. In a review of 146 grounded theory abstracts published between the years 1990-1994, Benoliel found that over 50% of studies claiming to use grounded theory are in her view, not applying it. This has led Benoliel to the conclusion that many nurses appear to equate grounded theory with more qualitative research methods in general, and do not understand the distinctive features of grounded theory that differentiates it from other research approaches. An important lesson that can be learnt from the work of Becker (1993) and Benoliel (1996) is that one cannot accept published grounded theory uncritically or assume that because a research study is published this automatically gives it a quality award.

Criteria for assessing quality of research

One approach to assessing the quality of a research study involves the use of criteria, which are the accepted standards for 'best research practice' against which a study is judged. However, within the research literature several different sets of criteria are emerging (see table 1). This raises questions as to which criteria should be used when evaluating a grounded theory study.

Table 1: Criteria for assessing quality of research

Quantitative criteria	Qualitative criteria	Universal criteria	Original grounded theory criteria	Strauss & Corbin's grounded theory criteria
• Validity • Reliability	• Credibility • Transferability • Dependability • Confirmability	• Validity • Relevance	• Fit • Work • Relevance • Modifiability	Two sets of criteria: - Research Process - Empirical grounding of findings
(Sheldon 1994)	(Lincoln and Guba 1985)	(Hammersley 1992)	(Glaser and Strauss 1967)	(Strauss and Corbin 1998; Corbin and Strauss 1990)

There appears to be no international or nationally accepted definition of '*best*' research practice. However, table 1 highlights Sheldon's (1994) suggestion that there are a number of desirable attributes which might be taken as evidence of '*best*' or effective research practice which include: validity, reliability and so on. The debate concerning '*best*' practice is one that views at one end of a continuum the positivist model which has at its basis the assumption that 'objective' facts can be established, while the other end views a phenomenological model (Lincoln and Guba 1985) taking the social world as being constructed by human beings. Both ends of the continuum produce research strategies such as qualitative and quantitative methodologies that are likewise in opposition.

Quantitative measures include methods such as the randomised control trial or quasi-experimental design, and the large-scale survey while qualitative methods include ethnographies and approaches that seek to interpret and conceptualise such as participant and non-participant observation, un-structured and semi-structured interviews, focus groups and interviews, and content analysis. With this continuing debate many nurse researchers find it difficult to decide the extent to which the findings from both of these methodologies are compatible or comparable.

In grounded theory the issue becomes more complex as two different criteria are proposed, each reflecting the methodological and epistemological differences between Glaser's approach to grounded theory and Strauss and Corbin's approach. However, there is one important pitfall that relates to the use of research specific criteria. That is, the research should be evaluated by the very constructs that were used to generate it. So, for example, whilst grounded theory criteria provide a methodologically related approach to evaluating the quality of a grounded theory study, as Miller and Fredericks (1999) point out, this could result in the evaluation becoming a circular issue. An alternative approach would be that all qualitative research is open to evaluation by criteria that are used for other scientific research. It is proposed that the universal criteria developed by Hammersley (1992) are used for all scientific work including quantitative and qualitative research studies. This more recent proposal of using universal criteria is gaining recognition and currently is being recommended for use by organisations responsible for commissioning research (Murphy et al 1998).

While the criteria debate is ongoing and may never reach a consensus, Long and Johnson (2000) suggest that researchers need to focus on the research methods instead of focusing on generating new criteria or terminology. In the context of grounded theory research and the problems identified by Becker (1993) and Benoliel (1996), the challenge for nurse researchers is to engage the quality issue at a more practical level of considering how grounded theory research methods themselves can be used to assure quality in research. Whilst criteria are part of the discussion on research quality, it is argued that it is more important to consider the research methods themselves from the perspective of quality in research. This means that researchers need to identify the essential components of grounded theory such as: concurrent data collection and constant comparative analysis; theoretical sampling; memoing; and, more importantly, to understand how these research methods impact on the quality of the research.

Essential features of grounded theory

According to Glaser, it is important to understand grounded theory as a package of research methods, which includes '…data collection, coding and analysing through memoing, theoretical sampling and sorting to writing, using the constant comparative method' (Glaser 1998, p.12). This means that the methods of sampling, data collection and data analysis should not be considered as separate procedural steps in the research process but instead need to be considered as a continuous cycle of data collection, analysis and sampling.

An essential feature of grounded theory research is the continuous cycle of collecting and analysing data. The researcher starts analysing data as soon it is collected and then moves on to compare the analysis of one set of data with another. As the research progresses and categories are developed, the researcher uses a form of analysis known as selective coding. This means that the researcher reviews the collected data by checking out whether the newly developed categories remain constant when the data is analysed specifically for these categories. As the research progresses, the researcher continues to review the categories as further new data is collected, so as to ensure that data is not being forced into the categories but rather that the categories represent the data. This dynamic relationship between data collection and analysis enables the researcher to check if preliminary findings remain constant when further data is collected. Taken together, constant comparative analysis and data collection offer the researcher an opportunity of generating research findings that represent accurately the phenomena being studied.

Theoretical sampling is generally accepted as a critical feature of grounded theory (Webb 2003; Becker 1993). However, theoretical sampling must be understood in its association with data analysis Theoretical sampling is defined as:

'*…the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyses his [sic] data and decides what data to collect next and where to find them, in order to develop his [sic] theory as it emerges*' (Glaser and Strauss 1967, p.45).

This means that the decisions regarding what data to collect are determined by the specific requirements of the theory that is emerging out of the data analysis. In other words, data analysis informs subsequent data collection and sampling. It is important that theoretical sampling is differentiated from purposive sampling (Cutcliffe 2000; Becker 1993).

The distinctive feature of theoretical sampling is its function, which is to ensure that the newly developed theory is theoretically complete. As the research progresses, theoretical sampling will guide the questions used to collect data and indeed the sources of data, so as to ensure the theory is developed fully. This also has implications for the researcher preparing a research proposal insofar as the questions used for data collection or the sampling strategy cannot be pre-determined before the grounded theory research begins, but can emerge only from the data analysis.

Another important feature of grounded theory research method associated with the data analysis is that of memoing. Glaser (1998; 1978) suggests that the writing of theoretical memos is a core activity throughout the grounded theory research process. Theoretical memos are defined as the following:

'*Memos are the theorizing write-up of ideas about codes and their relationships as they strike the analyst while coding*' (Glaser 1978, p.83).

This means that the researcher writes down ideas which arise during the data analysis. Memos are used to record the meaning of conceptual ideas and to record ideas for theoretical sampling. These memos provide a track record of the analysis and eventually are used as the analytical building blocks from which the new theory is developed. One reason why writing memos is considered important is that it encourages analysis that is grounded in the data because the researcher must consider how the codes and their properties relate to each other and provide evidence of this from the data. Glaser argues that this form of comparative reasoning undoes *a priori* assumptions because it forces the researcher to keep focusing on the data.

Quality issues

When considering the issue of quality in research, Hammersley (1992) suggests that an important question to ask is whether the research findings represent accurately those features of the phenomena it is intended to describe and explain. According to Murphy et a1 (1998), one way of answering this question is to look at the research methods used and consider the extent to which the likelihood of error has been limited.

It is recognised that grounded theory is open to the possibility of error in similar ways to other qualitative research approaches. One possible error is that the researcher misinterprets the data, so that the accuracy of the emergent theory is threatened. Within a qualitative research tradition the researcher usually relies on respondent or member validation as a way of checking the researcher's interpretation of data. Member validation involves the researcher returning to the participants and checking the accuracy of individual interview transcripts with participants or checking that the researcher's interpretation of the data represents what they said or their experiences (Seale 1999). While member validation may be considered the 'gold standard' in qualitative research, it introduces an additional and separate method into the research process, one which the researcher may opt not to use. Whereas in grounded theory, checking is built into the research process and is seen as an integral part of constant comparative analysis and theoretical sampling. It is used as an ongoing process throughout the research, which is clearly different from it being used as a distinct exercise of checking the research findings after the analysis has been completed.

DISCUSSION

Our picture of grounded theory is therefore one of a dynamic relationship between sampling and analysis which enables the researcher to check that emerging findings remain constant as further data is collected. Glaser (1978) refers to this as developing an 'emergent fit', which requires the researcher to be prepared to modify generated categories so that the new data is adapted into the emerging theory.

This inductive approach to generating theory allows for the continuous process of checking emerging categories and their properties by gathering new evidence. Seale (1999), having critically analysed the different methods of respondent validation, cautions against over-reliance on traditional methods of respondent validation and instead, highlights the importance of the researcher's '... readiness to revise claims in the light of what is revealed, rather than confirming mutual value positions between the researcher and researched, [so that] it can enhance the credibility of the research report, giving it greater sophistication and scope'(p.71). This clearly, is consistent with grounded theory research and can be achieved by the use of concurrent data collection and analysis, and by developing an emergent fit, so that the emergent theory can represent accurately the respondents' experiences.

An important feature of grounded theory is that it does not require that the researcher return to the original participants to check if participants agree with the researcher's interpretation of data. The progressive nature of theoretical sampling and constant comparative analysis suggests that the researcher moves on to involve other groups or people who have different experiences to see if the findings hold as new data is collected. While the primary purpose of respondent validation is to counter the effects of researcher bias and subjective interpretation during analysis, it is now recognised that respondent validation cannot be accepted as an absolute test of the accuracy of research findings (Murphy et al 1998). One of the problems with respondent validation is that it produces yet another layer of data, which again needs to be analysed. It is generally accepted that the methods of respondent validation, whilst intended to counter subjectivity, are themselves open to problems that limit the extent to which the accuracy of the research findings can be assured (Seale 1999; Sandelowski 1998, 1993). Therefore, the value of the grounded theory methods of constant comparative analysis and theoretical sampling is that they provide an integrated research approach to data collection, analysis and checking the quality of research findings.

Another general approach to enhance confidence in interpretative research findings is by providing evidence of how the researcher's own *a priori* assumptions may have shaped the data collection and analysis (Murphy et al l998). Unlike phenomenology's use of bracketing (Maggs-Rapport 2001) or qualitative research's use of reflexivity (Alvesson and Skoldberg 2000; Long and Johnson 2000; Hammersley and Atkinson 1995; Porter 1993), grounded theory addresses the issue of subjectivity through the research method of memoing.

During constant comparative analysis the researcher may experience what Glaser calls '…non-grounded ideas occurring from personal biases, personal experiences of an idiosyncratic nature' (Glaser 1998, p.182). In grounded theory the use of memoing is important in controlling distortion during analysis by sensitising the researcher to her/his personal biases. In addition to demonstrating that the researcher is aware of personal biases, memoing provides another important function in controlling the quality of data analysis. Through the use of memoing and comparative analysis the researcher is able to check if the memos fit into the emerging theory and as Streubert-Speziale and Carpenter (2003) point out, memos that do not fit are set aside. This means that in grounded theory, memoing has a dual purpose of being part of data analysis and also in countering subjectivity that ultimately enhances the likelihood of producing accurate research findings.

CONCLUSION

Grounded theory as a method traditionally uses an inductive strategy that attempts to identify the underlying structure in what people do and say. From a nursing perspective this is extremely important as the method allows the researcher to engage the clinical practicum in an attempt to discover and construct a meaningful account of the phenomena in question. A grounded theory approach, therefore, provides nursing with a viable means of generating theory grounded in the realities of everyday clinical practice. However, clinical practitioners need to be critical readers of grounded theory research, so that they recognise 'quality' research studies and can develop their clinical practice based on sound research findings.

Grounded theory needs to be understood as a package of research methods that includes the use of concurrent data collection and constant comparative analysis, theoretical sampling and memoing. These methods are not optional extras but instead are an integral part of the systematic and rigorous research approach of grounded theory. This paper will hopefully stimulate and promote dialogue among clinical practitioners in their quest for good examples of published grounded theory by asking the critical question 'what makes for a quality grounded theory research paper?' The challenge now for critical readers of grounded theory research is to use the criteria of concurrent data collection and constant comparative analysis, theoretical sampling and memoing as part of this process. This can create an awareness and an appreciation of the scientific merit required of grounded theory research and promote quality standards relating to research practices in grounded theory methodology.

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