FROM THE EDITOR – Dr Jackie Jones RN PhD

SCHOLARSHIP IN SUBMISSION

This edition of AJAN is larger than usual as we try to enable more research and scholarly work to be available to our readership. It is pleasing to see so many nurses submitting their work both as individuals but also as part of multidisciplinary teams across all levels of our research and practice development spectrum. The increasing number of submissions also means that we are progressing our own review scholarship to ensure our publication is of the highest standard and adheres to our submission requirements.

Alas at times authors fail to follow the guidelines available for AJAN [http://www.anf.org.au/04_anf_ajan_publications/pubs_ajan_guide.html] which results in an extended review and revision processes. Key areas include the over use of references, the omission of reference citation in text and/or within the reference lists, submitting papers that far exceed our word limit of 3000 words, or if they are within word limit papers, are submitted with excessive tables, figures and so forth. Like all aspects of research, quality and associated rigour is important. Asking the question: Is this paper readable, relevant and ready, should provide an initial appraisal of its worth.

A tight word restriction can actually help to simplify your writing style and reduce the amount of superfluous information to enhance clarity and key messages. Of particular concern can be the lack of structure and flow of ideas within papers as individuals 'rush' their work to meet submission and publication deadlines; often imposed by faculty or promotion rounds. Seeking a critical friend to review your work prior to submission may well save you time, effort and frustration.

Similarly planning a publication development and submission plan related to your research and or practice may prove useful and guide your writing scholarship. If you consider yourself a submission scholar then why not mentor a novice? However, and this is disappointing to note, it is not always our novice authors who fall short in submission scholarship. We look forward to being involved in the development, refinement and publication of your ideas through our peer review process but reviewers cannot be asked to substantially develop initial concepts. This is the work of the author(s).

The issues raised here are not limited to our Australian backyard nor to the authors submitting to AJAN: they are of concern to publishers and Editors around the world (International Academy of Nurse Editors 2006 conference).

This edition commences with the notion of nurses themselves as vulnerable. Patrick et al present research into burnout using self-report survey methods across a sample of Victorian nurses. Authors, Henning, Leigh and Milgrom, then go on to share two research papers around screening in vulnerable population groups. The first involves the identification of Chlamydia in homeless young people, whilst the latter brings screening for depression into focus within routine antenatal care.

Soh and colleagues present research on the knowledge of critical care nurses in preventing nosocomial pneumonia. Edleman et al report on the feasibility of a brief educational intervention administered to patients two weeks after Automatic Implantable Cardioverter Defibrillator (AICD) implantation on subsequent levels of anxiety, depression, stress and hostility. Pascoe et al explore the educational needs of nurses working in Australian general practice settings and Blay and Donoghue present findings from research to explore enrolled nurse skill extension They conclude, somewhat controversially, that basic nursing practices be delegated to assistants in nursing to enable the After Hours Enrolled Nurse time to effectively support clinical nurses and extend their own practice.

The final three papers also follow the thread of vulnerability with Sturrock and her team developing an adolescent appropriate youth care plan for use in adult acute settings. Remaining within the acute setting Scanlon argues the term vulnerability is misunderstood and/or poorly classified leading to risk for patients. Randle and Arthur in our final scholarly paper turns the focus back to nurses and provides an overview of the research and associated literature regarding the professional self-concept.

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WHAT ARE WE WAITING FOR?

The clinical education of Australia's aged care nurses can no longer be treated as the Cinderella of nursing's specialities. It is urgent that ways be agreed and measures taken to bring this branch of the profession, and residential aged care nursing in particular, into mainstream health care services.

There should be no need to describe again the evolving shape of Australia's demographic profile between now and the middle of this century; and no need to prove here that the ageing bulge is already placing a severe strain on staffing in the sector. A substantial percentage of the aged care nursing workforce is nearing retirement and the ratio of departures to recruits seems set to worsen at the same time as demand for high quality nursing care escalates. Important indicators – the number of the most highly dependent residents has doubled in the past seven years; compounding co-morbidities are increasingly common and an estimated 60-80% of residents in residential aged care facilities (RACFs) have a dementing illness – reveal the rapidly rising levels of frailty and dependency in the RACF population.

While Australia's aged care standards, including those in RACFs, have their weaknesses, they are internationally respectable. Whether they can remain so, let alone improve, is doubtful unless concerted action is taken now to overcome supply and quality problems with our future aged care workforce.

Where do the roots of our problems lie? Some of the 'external' or macro difficulties are obvious. Wage disparities are important. The workforce structure, closely connected to the industry structure, virtually ensures professional isolation for registered nurses, with manifold negative consequences. Much of the sector struggles with a lack of capacity among staff to effectively engage with contemporary technologies, which undermines access to key training options. Most branches of the media project at best a dull image of residential aged care and, at worst, portray a heartless industry dominated by abusive staff. The damage to recruitment, retention and morale-raising efforts is great, to say nothing of the damage to public confidence.

Our focus in this editorial however is on systems of education, training and recruitment. University nursing faculties generally lack sufficient numbers of experienced, qualified specialists teaching in the aged care area. The distinctive features of aged care nursing practice remain under-elaborated, making a collective inferiority complex widespread in the discipline. Curriculum thinking remains at a rudimentary level, despite recent moves toward a more coherent posture (Queensland University of Technology 2004). An underdeveloped knowledge base, combined with a limited capacity to facilitate change, does not provide the wherewithal for an evidence-based practice to become the expected standard. This is obvious and well known, but a concerted plan of scheduled actions 'owned' by stakeholders seems to be lacking.

We have abundant evidence to show that, around the world, students beginning their education rate aged care nursing as among their least likely career destinations. Worse, a clinical placement in the sector is more likely to strengthen than weaken those prejudices. Many students appear susceptible to 'body shock' do not feel confident in their dealings with older people; and unprepared and insecure when the older person has dementia or displays other behaviours of concern.

Students' reports suggest that some university teachers appear dismissive of the sector, reinforcing media stereotypes. RACF nursing staff are usually inadequately prepared and, some will argue, despite significant federal funding injections, not resourced to function effectively as preceptors/clinical teachers for students of nursing. Further, these students say, unregulated staff actually carry out a significant amount of their on-site supervision and teaching during clinical placements even though, as role models, they often administer care in ways contrary to the practice norms taught to students during their university preparation.

Support for students during aged care placements is often found wanting. For example about 50% of students report not being told what to do in the event of an emergency with a resident, and reported that the staff they were joining for the placement seemed not to know they were coming on the day of arrival (Robinson et al 2006).

To conclude that our problems outnumber our solutions would be to underestimate the available resources for change. In what may be the world's biggest published systematic review of articles, theses and reports relating to clinical placements in aged care (Abbey et al 2006) several relevant things emerged:

1. The Australian Government has sponsored some of the best published work in existence on the subject during the past decade in the form of expert inquiries and reviews (Pearson et al 2001, Clare and van Loon 2003).
2. A document outlining the core principles of curriculum has been produced by a team at QUT; and other useful work on the subject has been produced by one or two of the state nursing regulatory agencies.
3. Little of what is said or done around the world to improve clinical education in aged care is supported by high quality evidence. The systematic review mentioned above however, reveals a remarkable level of agreement among experts as to what needs to be done (Abbey et al 2006).
4. Australia already has underway what is probably the world's longest running and most fully reported experimental attempt at devising an evidence-based model for aged care clinical placements, and that research demonstrates that sustainable improvements are possible with modest additional expenditure (Robinson et al 2002; Robinson et al 2005, Robinson et al 2006)
5. From that research emerges a draft model, based on the best available local and international evidence and ready for further trialling, of how to conduct more effective clinical placements in aged care to secure measurable gains in key indicators of success in training, sector image and career intentions (Robinson et al 2006).

So: what is to be done? Action on four fronts is necessary. The resources for change (1-5 above) must be collaboratively integrated.

A deliberate, rigorous program of refining and testing the evidence base for the model or models for clinical practice for undergraduates in RACFs must continue with all possible speed, with research underpinned by continuing dialogue among the stakeholders. That said we should not delay urgent reforms until every last proposition has been pushed by strict quantitative testing over the threshold of certainty. We must use the best available knowledge to take action where we can, simultaneously conceding its limited evidentiary status and relentlessly striving to raise it.

We must recognise the path to improvement will be through capacity building. A critical review of the aged care system's current capacity to match the training standards expected of mainstream health care services is a logical first step. This involves raising and then progressively refining two questions:

- How many Australian nursing schools have the capacity to produce nurses competent in aged care and enthusiastic about it?
- How many aged care sites, residential sites in particular, have the capacity to provide quality clinical education to the next generation of nurses on whom the system will depend?

These questions about capacity are overdue; but they are not rhetorical, accusatory or an invitation to play the 'blame game'. Insensitivity would waste the sector's good will and commitment and inflame its frustration. Answers to the questions are imperative.

The fourth and final stage is the most important of all: we must decide on how change is to be packaged, delivered, applied and evaluated. At present our knowledge of what to do, while incomplete and sometimes tentative, is stronger and clearer than our knowledge about how to do it. We can anticipate a diversity of views from the different stakeholders' perspectives. The target must be a binding agreement to a clear, comprehensive plan and timeline, acceptable to universities, industry, government, professional and industrial bodies, student and consumer groups. Anything less will not generate the necessary energy. Patient negotiation will be required and can be successful. We know a lot in Australia about how to responsively mix encouragement, support and prompts to successfully achieve organisational and sectoral change.

Clinical training in aged care for student nurses is a key pillar for maintaining and improving care standards in the fastest growing sector of our health services. Many, many millions of dollars of public money is spent on it each year. It is presently organised with vigour, dedication and good will, but within the limits of a cottage industry model. This cannot deliver sufficient transparency, proper public accountability or even comparability of its outcomes or the standards achieved. It is unlikely to be able to deliver the benefits that could be achieved by a closer integration of the clinical training of future generations of health professionals, such as might be offered by formally designated and accredited teaching nursing homes. We are almost certainly wasting some money with present arrangements. There is no doubt we are wasting a lot of evidence, and with it the chance to improve systematically. To continue as we are is simply unacceptable.

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SCREENING FOR CHLAMYDIA TRACHOMATIS: BARRIERS FOR HOMELESS YOUNG PEOPLE

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Key words: Chlamydia, screening, barriers, homeless, young

ABSTRACT

Objective:

The study explored homeless young people's knowledge and attitudes of *Chlamydia trachomatis* (Chlamydia) and its screening.

Design:

Semi-structured interviews using focus groups.

Setting:

An inner city clinic for homeless young people.

Subjects:

Homeless young people aged 16 -26 years.

Outcomes:

Perceptions of Chlamydia and its screening.

Results:

19 males and 6 females aged 16 - 26 years participated. Content analysis confirmed a lack of knowledge, prior education and misinformation about Chlamydia and barriers to being screened. Ideas for informing young people about Chlamydia included advertising on billboards, in free newspapers, and improved school sex education programs.

Conclusions:

Homeless young people have poor knowledge of Chlamydia and its screening and barriers to the screening process. Culturally-specific education and health promotion programs and services are needed.

INTRODUCTION

The bacterial infection *Chlamydia trachomatis* (Chlamydia) is one of the most common sexually transmitted infections (STI). The Chlamydia bacterium can infect the cervix, fallopian tubes, throat, anus and male urethra. The infection, often asymptomatic, may go unrecognised and people are often unaware of its spread through unprotected sex (Department of Human Services 2003). A very simple, sensitive, non-invasive screening test is available using the nucleic acid DNA amplification technique Polymerase chain reaction (PCR) which has almost 100% specificity. It identifies the Chlamydia bacteria in a first passed urine sample (the Chlamydia Strategy for Victoria 2001).

Hayley et al (2002) reported a 6.6% prevalence of Chlamydia among Montreal street youth in Canada and recommended homeless youth needed to be tested for and educated about sexually transmitted infections at each clinic visit. They argued that collecting urine samples represents non-invasive screening and increases the likelihood that young people will agree to be tested. Prompt treatment and notification of sexual partners following a positive test is desirable to control Chlamydia transmission in homeless youth.

Chlamydia is the most common STI in Victoria, Australia. Reported cases doubled between 1994 and 1999 and notifications increased by 36% in the 4th quarter of 2003 compared with 2002 (Atkin 2004). The highest incidence occurred in the 20-24 year age group.

A number of studies of homeless young people indicate they have a high risk of Chlamydia (Rew and Horner 2003;

Kelly et al 2000; Rossiter et al 2003; Hillier et al 1997; Lovett 1994). The reasons cited for the high risk include: limited knowledge of where to access health care; cost of services; lack of services for females; not understanding the consequences of Chlamydia and health professionals' failure to understand the issues facing homeless young people.

Australian guidelines recommend annual screening for all sexually active women under 25 years to diagnose and treat Chlamydia infection early and that regular screening and treatment programs should be available, particularly to at risk groups including homeless young people (Australasian College of Sexual Health Physicians 2003; Hocking and Fairley 2003). These recommendations follow trends in America and Britain (Hart et al 2002). Promoting the health benefits of screening programs is an important health intervention (Dunn 2003a). However it is not clear how to improve the low screening rates in homeless young people or the most effective way to inform them about Chlamydia.

AIMS

The present study aimed to explore the knowledge and attitudes of homeless young people attending an inner city clinic about Chlamydia, the screening process and their ideas to increase awareness and screening in the group. The study was conducted to address the increase in Chlamydia noted among the young people attending the Young People's Health Service (YPHS).

METHOD

Study setting and the sample population

YPHS is a nurse-led health service providing opportunistic health interventions to homeless young people in inner Melbourne. Most people accessing the service are aged between 12 and 22 years and have lived in a variety of places since leaving home: with friends, on the street, youth refuges, or in supported accommodation (YPHS Annual Report 2002-2003). Transient shelter often means health care is inadequate.

Sampling process

All homeless young clients over sixteen years attending the YPHS between December 2003 and March 2004 were invited to participate. Pamphlets describing the study were distributed in the month prior to commencing the study and continued until recruitment was completed.

Five focus groups were held on separate days over a two-month period. Recruitment occurred on the day participants presented to the YPHS. Homeless young people suggested this recruitment method because their lifestyles did not enable them to plan ahead. Although six young people planned to attend a group they failed to present on the day. Informed consent was obtained on recruitment.

Focus group process

The author (AR), who is experienced at communicating with this population, facilitated the focus groups which continued until there was no further new information.

Although education is not usually an aim of focus groups, in the current context opportunistic education was necessary and enhanced the discussion particularly about health promotion ideas for the infection.

The discussion was audio-taped and author (DH) recorded non-verbal responses and interactions within the groups. Each group was coded with a letter and participants within each group were given a number that they displayed during group sessions to maintain confidentiality.

All participants agreed to abide by the group 'rules': respect other group members by allowing them to speak and addressing each other using the designated identity codes. Food and drink was provided to groups.

A series of semi-structured questions guided the discussion. The questions were piloted with five young people aged between 16 and 21 years to assess the clarity and suitability of the language. Ethics approval to undertake the study was obtained from the Royal Children's Hospital Human Research Ethics Committee.

DATA ANALYSIS

The audiotapes were transcribed verbatim and reviewed by the researcher and research assistant. Constant comparative data analysis was undertaken to compare data from each group successively and identify emerging themes using the framework method (Ritchie and Spencer 1994).

RESULTS

Demographic data

A total of twenty five young people participated in five focus groups (see table 1) which also shows demographic characteristics.

Table 1: Demographic data of participants in the five focus groups

Group	Age range	Gender Male	Female	Last year of schooling completed
A n = 6	18 - 25	5	1	10 - 12
B n = 5	16 - 24	3	2	8 -12
C n = 5	18 - 26	4	1	10 - 12
D n = 5	20 - 21	4	1	10 - 12
E* n = 4	16 - 21	3	1	10

*A four-week-old baby was breast-fed during group E but caused minimal disruption.

Themes from the focus group discussions

Lack of knowledge

Most participants were not aware Chlamydia existed and their responses indicated a lack of understanding of the infection. Many participants indicated they had heard of the word ‘Chlamydia’ and understood it was a sexually transmitted infection but they did not have detailed information. One male in the second group said:

> *If you can have a test and it can be cured then it’s not so bad.* (B1: male)

Most young people incorrectly believed they were at greater risk of acquiring HIV/AIDS than Chlamydia and did not know about prevention; in particular condom use was not recognised as a way of preventing the infection. Lack of understanding was complicated by the asymptomatic nature of Chlamydia. One male summed up the feelings of many participants when he said:

> *How can you seek treatment if you don’t know you’ve got it?* (B3: male)

However six Group A participants indicated they were aware the infection could cause pain and possibly fertility problems for women if it was not treated for example:

> *I think not only can it cause problems with fertility in the future for women, but it can cause a lot of pain as well.* (A2: male)

A recurring theme in all focus groups was that young people want to know about Chlamydia, the screening processes and health services.

School sex education not helpful

Some participants gained information about Chlamydia during school sex education programs. However they indicated they thought these programs were ‘boring’, ‘inadequate’, ‘not relevant to their needs’, ‘something to be avoided if possible’ and only recalled a limited amount of information from these programs. Sometimes the information they recalled was incorrect:

> *…it was just never really interesting to listen to because all they did was speak about it, they never showed diagrams or pictures. Every time the sex education came I’d go home.* (E4: male)

Other sources of Information

Some of the girls learned about Chlamydia when they were pregnant during antenatal programs. However, by the time they received the information they were already at risk of Chlamydia and other STI’s.

> *When I had my first child there were pamphlets there [at the antenatal program in the hospital]* (D2: female)

‘Dirty girl disease’

Chlamydia was described by the few who did know something about it as ‘bad’, ‘dangerous’, ‘something to do with the body’, ‘not something you wished you had’ and ‘hard to detect, I think’. Young males who knew about Chlamydia were only aware that it affected females and made comments such as ‘it’s a girl disease’ and ‘not so important for males’. Male participants implied any risk of Chlamydia was the responsibility of young women:

> *I’ve heard its something to do with the clitoris, a fungus, it’s a female thing.* (A4: male)

Male infertility issues and protecting the future

No participant was aware of recent research showing Chlamydia can compromise male fertility although this complication is rare (Gough 2004a). Males became increasingly interested in Chlamydia after learning about the possible compromised fertility and asked questions such as:

> *Does it lower your sperm count? If you were to have kids and you had it, would your kids come out all deformed?* (E2: male)

Similarly females were unaware of the consequences of Chlamydia on their fertility.

Screening process and barriers to screening

Most participants were unaware of Chlamydia screening processes, which reflected their general lack of knowledge about Chlamydia. At least one person in each focus group believed screening required a blood test. If they were aware of urine screening, they were unable to differentiate between the first passed urine specimen used to screen for Chlamydia and a mid-stream specimen needed to detect urinary tract infections. ‘Taking a swab’ was mentioned but without any real understanding about what was involved. Participants who believed screening required a blood test felt they would be ‘screened for everything’ including infections when they had a blood test for any reason:

> *They do the same as when they test you for hepatitis because I’ve been blood tested before.* (E1: male)

When the urine screening process was explained, participants said collecting the first passed urine test was acceptable to them.

Participants indicated they feared being embarrassed by participating in STI screening programs and noted that embarrassment might prevent many young people from being screened. Other inhibiting factors included being frightened of the unknown and denial:

> *It’s one thing to read about it and another thing to think about it and another to do something about it.* (A4: male)

Several participants indicated young people were unlikely to broach the subject of Chlamydia with a health professional if they did not know screening was available.

Not having money and not being able to attend bulk billing health services were significant barriers to screening:

They don't bulk bill [services not charging a fee]. (C3: female)

No one has the money to go to the doctors. (C1: male)

Most young people in the study felt having 'food, money and somewhere to sleep' were more important than addressing their health needs.

How to inform others

Participants made a range of suggestions about how to inform young people about Chlamydia. The young women who attended antenatal care during their pregnancies were very positive about the information they received in antenatal programs and generally agreed that the education provided had been very useful. They also indicated the information would be most useful if it was provided before they commenced sexual activities. However, they were unable to agree on an appropriate time or year level for the education. Group B indicated Chlamydia education given within school programs should be 'more interesting'.

I think school is the best way to tell kids about Chlamydia. (B4: female)

Participants suggested using 'sensational advertising' and explicit images of grossly mutilated genitals on a billboard might be a way to get the message across to homeless young people, because they felt shock tactics would be effective.

Other suggestions for sex education included information in MX, a free inner city paper that targets young people, which is widely read by the target group, static and electronic billboard advertising, a television advertising campaign similar to the genital herpes program, pamphlets distributed by community and/or religious groups and advertising on condom packaging.

Humour was also mentioned specifically as a way of attracting the young people's attention:

Humour to make it funny. It's insensitive to do but it just makes people look. They have this like ad at this place I was staying at that said 'never use beer as a lubricant' I thought it was a joke. I looked closer and it was a thing you shouldn't have sex with someone without their consent. I was like 'shit we shouldn't joke about this', but it is funny. (A5: male)

Another male said:

You could give pamphlets to Jehovah's Witnesses and Mormons to distribute during their door knocking. (C2: male)

Incentives for attending screening programs

Several incentives were suggested to encourage homeless young people to attend Chlamydia screening programs (see table 2).

Table 2: Suggested incentives made in the focus groups to encourage homeless young people to attend Chlamydia screening programs.

Male	Female
Have a mobile health van services and free health care)	Make health things free (bulk billing
Improve the advertising for Chlamydia screening people	A 'taking care of yourself' health promotion program for young
Provide food as an incentive to attend	
Have 'mobile' health professionals	
A self-testing process to be used by the young person (similar to a 'home pregnancy test')	

One female felt Chlamydia screening could be promoted as a way of 'looking after yourself'. A greater knowledge and understanding of the infection and the screening process, and easy access to screening and treatment services, were seen as vital to encouraging homeless young people to take responsibility for their health care. One young person had an unrealistic expectation of how easy it could be to treat:

...just think though that if everyone in the world had them two pills [Azithromycin], we'd wipe Chlamydia out. (D3: male)

DISCUSSION

The increasing prevalence of Chlamydia at YPHS was a major reason for undertaking the study. Although the study did not set out to assess knowledge, participants lacked knowledge about Chlamydia, which indicates homeless young people attending YPHS are at high risk of contracting Chlamydia. This finding is consistent with the Australian Institute of Health and Welfare (2003), which reported increasing rates of Chlamydia and noted young people are unaware of the infection and its associated health sequelae. In addition, many young people are unaware their partners are at risk of sexually transmitted infections (Drumright et al 2004).

As with other studies, common barriers to screening in this population were lifestyle stresses of not having food and shelter taking priority, cost of services, embarrassment, and fear of the unknown. The most common barriers were lack of knowledge about the infection and screening process and denial that they could be at risk (eg. Chlamydia seen as a 'girl disease'). Future Chlamydia education programs need to address shared responsibility between both sexes.

Even though the young people's experience of sex education programs within the school setting was largely negative and to be avoided if possible, they believed information about Chlamydia should be given within the school system. In 2004 new sex education programs were introduced into public schools after years of delay. They were designed in response to current research indicating that young people want comprehensive education within safe and supportive school environments (Dunn 2004b). The quality and extent each of these addresses Chlamydia is as yet unknown and will need evaluation.

The final year of schooling in Victoria is completed in Year 12 at approximately 18 years of age. Less than a third of participants in the current study had completed that level of schooling; half left school at the conclusion of Year 10 (approximately 16 years of age). Therefore Chlamydia education would need to have been provided in Year 9 or earlier to reach this extremely vulnerable, high risk group. The Third National Survey of Australian Secondary School Students, HIV/AIDS and Sexual Health was conducted in 2003 and focused on young people in Years 10 and 12. The findings indicated that, although knowledge of sexually transmitted infections remained poor, it had improved over the past five years (Smith et al 2003). Young people who completed Year 12 have a lower incidence of Chlamydia than those who left school earlier (Debattista et al 2002). Therefore the timing and method of sexual education programs is important.

Some young people in the current study believed they were screened for Chlamydia when they had a blood test, which was consistent with Lovett's study in the same population (Lovett 1994). They believed they had acted responsibly and taken care of themselves and a current or future sexual partner by having a blood test. It seems likely that health professionals did not inform young people that specific screening tests were needed to detect Chlamydia which is not covered by a blood test.

It is necessary to provide information about Chlamydia in a relevant format to encourage young people to participate in screening programs (Blake et al 2003). Participants in the current study believed it was extremely important for their peer group to know about Chlamydia and suggested a variety of ways to inform them about the infection, screening and treatment. Advertising the importance of regular screening may encourage young people to initiate discussion.

It appeared to be difficult for some participants to understand that Chlamydia is often asymptomatic, even after they were provided with education. Participants suggested using sensational advertising and explicit images of grossly mutilated genitals on billboards as effective ways to get the message across to homeless young people as well as using humour in advertising. However, perhaps other sorts of tests need to be piloted with this client group to get across the often silent nature of this infection.

The Australasian College of Sexual Health Physicians recommends annual screening for at-risk women under 25 years of age. While women have more recognisable health consequences from Chlamydia than males, our male participants expressed a desire to know more about the infection and testing. It is now postulated that the resurgence of Chlamydia in some countries may be because of a failure to include men in screening programmes (Chen and Donovan 2003; Low and Egger 2002).

The fact Chlamydia can be treated and cured provided a sense of optimism for the participants. However there was an element of simplicity in their responses. For example thinking if everyone in the world was simultaneously given Azithromycin the infection would be wiped out. Suggestions for policy, health promotion, research and clinical practice arising from this study are summarised in table 3.

Table 3: Suggestions for practice, education and policy changes

1. Provision of health services free of charge for homeless young people appears to be important. All general practitioners, share concerns about lack of money being a barrier to young people accessing health care (Viet et al., 1995).
2. Health professionals encouraging and explaining Chlamydia screening and education programs to young people.
3. Evaluating the new sex education programs introduced into schools in 2004 as to whether they address the issues raised by the participants in this study. Particularly they need to be seen as relevant and engaging for this group.
4. Future screening programs and research should include both sexes as most currently concentrate on the female experience.
5. Considering innovative ways of working with the homeless young group. Having 'mobile' health professionals and/or a mobile health van as suggested by our participants.

LIMITATIONS

The sample was small with a greater proportion of males than females in the study, meaning there was a greater representation of the views of young males. It is possible that better educated homeless young people who were able to understand the project participated and they may not represent all homeless young people. The group is difficult to access given they are transient, however, the opportunity to participate was offered to all the young people who presented to the service. The study was specifically limited to homeless young people who access the YPHS inner city clinic in Melbourne.

CONCLUSION

Young people in the focus groups were genuinely concerned about their ignorance of Chlamydia, a sexually transmitted infection they are most at risk of contracting and which could have serious implications for their future sexual and reproductive health. Creating health promotion programs that effectively target this group is the future challenge. Health professionals working with this vulnerable young population need also to opportunistically educate about Chlamydia, screen and treat to reduce the prevalence of the infection and improve health outcomes for the group.

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ACCEPTABILITY OF ANTENATAL SCREENING FOR DEPRESSION IN ROUTINE ANTENATAL CARE.

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Key words: perinatal depression, Edinburgh Postnatal Depression Scale, midwife feedback, community sample, telephone interviews

ABSTRACT

Objective:

The Edinburgh Postnatal Depression Scale (EPDS) is generally recognised as a valid, reliable, cost-effective and simple tool to implement within routine care, however there is controversy regarding the acceptability of screening for depression. This paper aims to examine how acceptable women find (1) completing a battery of questionnaires, including the EPDS and (2) receiving feedback from midwives regarding the significance of their EPDS score when being screened for depression as part of routine antenatal care.

Design:

Telephone interviews with women following completion of the questionnaire battery and receiving feedback from midwives.

Setting:

Antenatal primary care in a hospital setting.

Subjects:

Community sample of 407 women screened by midwives in antenatal clinics. Main outcome measures: Information regarding women's experience of participating in the screening process.

Results:

100% of women reported that the screening experience was acceptable and not upsetting. Almost 50% reported that the screening process raised their awareness of perinatal depression. No woman reported feeling stigmatised, labelled or distressed by the screening process. Women reported that gaining immediate feedback from midwives was reassuring.

Conclusion:

This study strongly supports the acceptability of routine screening for perinatal depression in the context of registered midwife support.

INTRODUCTION

Antenatal depression is prevalent and has potentially far-reaching adverse consequences. Reported prevalence rates of depression in the antenatal period are similar to postpartum levels and range from 12% to 20% (Marcus et al 2003; Evans et al 2001; Josefsson et al 2001; Buist et al 2000; Areias et al 1996). Depression in pregnancy may also compromise a woman's physical and mental health and the health of her unborn baby through diminishing her capacity for self-care, including inadequate nutrition, increased drug or alcohol abuse and poor antenatal clinic attendance (Austin 2003).

Antenatally depressed mothers have been found to experience increased episodes of pre-eclampsia (Kurki et al 2000), preterm delivery and placental abruption (Seguin et al 1995; Zuckerman et al 1989) as well as adverse obstetric outcomes (Chung et al 2001). Antenatal depression is also recognised as a powerful predictor of postnatal depression (Buist 2002; Josefsson et al 2001). Thus, some women may not only spend time in pregnancy depressed, but might also enter parenthood in a depressed state, which in turn has been associated with cognitive and behavioural developmental difficulties in infants (Milgrom et al 2004).

Successful treatment for depression is available (Zlotnick et al 2001; Milgrom et al 1999; Elliott 1989) but early detection and management seems imperative to achieve this outcome. A popular and widely used test for screening for perinatal depression is a self-report questionnaire, the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al 1987).

Given the potential seriousness of depression, it is not surprising that routine screening has been advocated by experts and government bodies. The American College of Obstetricians and Gynecologists (2002) endorse the routine screening of all patients for symptoms of depression and advocate the use of the EPDS for postpartum women (Dell 2002). This is consistent with the United States of America Preventive Task Force (2002) which recommends routine screening of all adults across the lifespan for depression in primary care settings (Piagnone et al 2002; USA Preventive Services Task Force 2002). The United Kingdom's National Screening Committee (UK NSC) has promoted screening guidelines that may be applied to a vast array of conditions. However in relation to screening for perinatal depression, concerns have been raised regarding the paucity of empirical evidence that exists for some criteria endorsed by the UK NSC (McLennan and Offord 2002; Shakespeare 2001). One such criterion pertains to the 'acceptability' of the test to the population under investigation.

Whilst compliance with participation of screening appears to be remarkably high in antenatal samples with 95% complying (Zlotnick et al 2001; Brugha et al 2000) there exists only a small amount of literature reporting on acceptability of the process and findings are inconsistent. In one study a large representative community sample was used (n=674), but acceptability of the EPDS was not directly assessed only inferred from a high (97.3%) postal response rate (Murray and Carothers 1990). While another study reported positive responses from women though interview, the time elapsing between administration of the EPDS and interview follow-up (three months) may have served to lessen any concerns (Holden 1990). A more recent study reported that just over half of a sample of postnatal women recruited at general practices found the EPDS less than acceptable (Shakespeare et al 2003). These women raised concerns about their feelings of personal intrusion and potential stigma in completing the EPDS. However, the sample size was small (n=39).

AIM

The purpose of this paper is to add to the small body of literature regarding women's experiences and perceived acceptability of routine screening for antenatal depression by directly interviewing a large representative sample of women who have been routinely screened in community hospitals as part of antenatal care. Additionally, the limited evidence reported thus far has largely pertained to screening in the postnatal period. By contrast, this study evaluates acceptability of antenatal depression screening as well as the acceptability of receiving immediate feedback from midwives about EPDS scores.

METHOD

Participants

Participants were recruited from two major public maternity hospitals in suburban Melbourne as part of the Victorian component of the *beyondblue* National Postnatal Depression Program (2001-2005). The program screened women in Australia for antenatal and postnatal depression using a screening pack that collected psychosocial background information and included the EPDS. The program has been described more fully elsewhere (Buist et al 2002).

Consecutively screened women were included in this subsidiary study over a period of 12 months. A total of 407 women participated in the telephone interviews. Only three women were uncontactable by phone.

Edinburgh Postnatal Depression Scale (EPDS)

The Edinburgh Postnatal Depression Scale (EPDS) was used to screen for antenatal depression. The EPDS (Cox et al 1987) measures current mood disturbance for women in the perinatal period and comprises 10 items (eg 'I have felt sad or miserable') and is rated on a 4-point scale. It is not a diagnostic but a screening tool (Pope 2000; Cox et al 1987). Scores above the specified threshold indicate the participant may be depressed and further investigation is recommended (Cox and Holden 2003). Research has suggested that scores above 9 indicate a 'possible depression' while scores above 12 indicate a 'probable depression' (Leverton and Elliott 2000).

A cut-off score of >13 has been validated with an Australian sample (Milgrom et al 2005; Boyce et al 1993). At this threshold, previous research reports sensitivity ranging from 86-100%; specificity ranging from 78-96%; and the positive predictive value of the scale from 69-73% (Milgrom et al 2005; Boyce et al 1993; Murray and Carothers 1990; Cox et al 1987).

PROCEDURE

Antenatal Screening Procedure

Midwives were trained in the use of the EPDS and how to discuss the results as part of the *beyondblue* National Postnatal Depression Program. After midwives obtained informed consent for participation in the study while at a routine 26-32 week antenatal visit, participants completed the screening questionnaire pack. Midwives scored the EPDS on the spot and the result was discussed. All women who participated received an educational booklet, *Emotional Health during Pregnancy and Early Parenthood*, which provided information and a list of available resources. They were also alerted that a telephone interview would follow. A letter of recommendation to consult their General Practitioner (GP) was sent to all women who scored >13 on the EPDS. Simultaneously, a notification letter and depression management guide was sent to the woman’s nominated GP. If necessary, referrals to appropriate health care professionals were made by midwives to ensure ongoing or more specialised care.

Telephone Interviews

After completing the screening questionnaires, each participant was contacted by telephone. Women were asked if they would be willing to discuss their experience in completing the EPDS through a structured telephone interview. The majority of women were contacted between one and two weeks after screening, with three weeks the maximum time before attempts at contact were terminated for the three uncontactable women. Duration of telephone calls averaged 10 minutes.

The telephone interview was designed to elicit information about the experience of completing the EPDS including the overall acceptability of all the questionnaires. Information was also sought regarding the feedback received from midwives to ascertain (1) if feedback about the EPDS score was regularly forthcoming, and (2) the women’s experience of receiving feedback from the midwife. The following three sets of questions were asked:

1. What was it like for you completing the questionnaires? How did you find it?
2. Were there any questions that you found upsetting, distressing or confronting?
3. Did the midwife give you some feedback about your depression score? How did you experience receiving that feedback?

Conversations were transcribed with the interviewer clarifying all participant responses through rephrasing for confirmation and accuracy of data recording. Raw data were then collapsed into categories on the basis of emergent themes based on the guidelines suggested by Murphy et al (1992). Frequencies of responses are reported in the results.

RESULTS

Description of Sample

Participants comprised primipara and multiparae mothers. Of the 407 participants contacted by telephone no one declined participation. Of these, 84 were identified as having an EPDS >13 and therefore were more likely to be depressed while the remaining 323 had EPDS scores <13. Participants ranged in age from 17 to 45, with a mean age of 30.8 (SD=5.1). The sample included a diverse range of cultural, educational, vocational and socio-economic backgrounds. Single as well as partnered women were included.

1. Women’s Experience of Completing the Questionnaires

The first question was open-ended allowing for a range of responses without prompting. The responses were collapsed into three themes/categories (Fine, Relevant and Appropriate, and Raised Awareness), as shown in table 1. All participants (n=407) stated that completing the questionnaires was easy, straightforward and fine. Almost three-quarters of the sample (292 women) commented that the questionnaires contained relevant and appropriate questions and almost 50% (193 women) said completing the questionnaires raised their awareness of antenatal and postnatal depression, including some risk factors.

Table 1: Categorised Responses and Response Rate for Telephone Data.

Question	Response	Number (%)
Question 1: Experience of Completing Questionnaires	Fine	407 (100)
Relevant and appropriate	292 (72)	
Raised awareness	193 (47)	
Question 2: Upsetting, Distressing or Confronting?	No	407 (100)
Question 3: Midwife feedback	Yes	402 (99)
	- Positive experience	190 (47)
	- Neutral experience	212 (53)
	No	5 (1)
n=407		

2. Acceptability of the Questionnaire Battery

Question 2 was designed to assess the extent to which women found the questionnaires acceptable. 100% of participants (n=407) stated that they did not feel upset, distressed or confronted by any of the questions in the EPDS or other questionnaires. To allow participants a further opportunity to raise concerns the interviewer clarified each participant response by stating, ‘*Were there any questions that you found upsetting or that you objected to?*’ Even with this prompt participants reported no objections. The following quotes highlight this:

‘*There are a couple of tough questions, but it’s good to ask these and you need to know*’ (participant no.170, age 35, EPDS score 6).

‘*The questions seemed relevant to finding out about depression*’ (participant no.207, age 32, EPDS score 14).

Interestingly, concerns raised were related to concerns for other women rather than themselves. A small number (33) of non-depressed women expressed that the questionnaires were acceptable to them but speculated that they might not be acceptable to women who were struggling with either their present mood or past experience. The following quote exemplifies this:

‘*The questions were easy for me because I’ve never been depressed, but maybe someone who is depressed* *might find it more difficult*' (participant no.82, age 31, EPDS score 4).

3. Feedback from Midwives

Question 3 attempted to confirm that midwives were providing feedback to participants about their EPDS score and how participants experienced this. All but five women confirmed that they received feedback from their midwife. These five participants had EPDS scores below 10. Women overwhelmingly reported positive or neutral experiences in receiving feedback about their EPDS. The following quotes exemplify the responses:

'*It's good and reassuring to know that I'm being monitored. There was no support like this last time and I suffered PND*' (participant no.174, age 31, EPDS score 14).

'*It's good to get some immediate feedback from the midwife*' (participant no.36, age 33, EPDS score 18).

'*I knew I was depressed and I see a psychiatrist, but now my midwife knows. We decided that I would continue to see the same midwife for my other antenatal appointments because now she knows my situation. She's going to help me through a bit more*' (participant no.52, age 23, EPDS score 18).

'*I was fine. She [the midwife] didn't say much, just checked that I really was ok*' (participant no.18, age 31, EPDS score 5).

All 84 women who scored 13 or over stated they discussed avenues of care and support with their midwife. Many reported feeling relieved and supported that additional care was offered. Of these 84 participants, eight women asserted that they were not depressed, four of whom discussed this with the midwife at screening and four of whom stated that they were not told the EPDS is not a diagnostic tool. At the time of the telephone interview it was explained to them that an elevated score was not necessarily indicative of depression as the EPDS is a screening instrument. High scores suggest they are presently struggling with some negative mood symptoms and indicate the need for further assessment to determine if the woman is depressed. They found this to be a more satisfactory explanation of their screening status.

DISCUSSION

Using a telephone survey, women's experiences of participating in an antenatal screening program was investigated; a previously unreported area. This study contributes to the limited literature on acceptability of screening for perinatal depression in a large community sample and will hopefully stimulate further research in this important area. Overall, women in this sample found screening by midwives highly acceptable. Many participants remarked that they thought routine screening was beneficial and should be implemented universally. The overwhelming response from women in this study was that completing questionnaires antenatally to assess risk of perinatal depression was acceptable.

The current findings support the positive findings of Murray and Carothers (1990) and Holden (1990). By contrast, Shakespeare et al (2003) reported relatively low acceptability among their small sample of postnatal women completing the EPDS. They speculated that this may be due to issues of personal intrusion and potential stigma. These issues did not emerge in the current research which surveyed more than ten times the number of women. Contrary to the findings of Shakespeare et al, feelings of relief and increased support from midwives were frequently reported. The different outcomes in this study may reflect differences in culture, training of administrators or the method used to administer the EPDS and the immediate support of midwives. Alternatively, it is possible that an antenatal population feels less intruded upon by being asked questions. Perhaps this is due to many questions and tests being performed when a woman is pregnant, as opposed to the postnatal period. Interestingly, women in this sample who were identified as having an EPDS >13 and therefore more likely to be depressed found the questionnaires acceptable. It was only a small number of women who were not depressed who speculated on the acceptability of such questions for depressed women. Those who argue against routine screening may do so to protect depressed women from potential negative outcomes (stigma, labelling) but perhaps these are concerns of a non-depressed population and do not necessarily represent the concerns of those who are depressed.

The design for this study was simple as the aim was to investigate women's overall acceptability of being screened antenatally, a previously unreported area. However, there were some limitations to this study, which was a first attempt at asking questions with face validity regarding the acceptability of the EPDS. The data generated was also reduced to simple categories and thus failed to capture fine-grained subtlety within participant responses. Future researchers might consider providing women questions with Likert response options and 'other' option for comments. This may produce greater discrimination within the data.

If a serious debate is to continue regarding women's acceptability of the EPDS, perhaps the method of administration and feedback needs to be uniform and the development of some agreed objective criteria for the concept and relative term of acceptability is required. Only then will more accurate comparisons be available both within and across cultures, clinical practice and research settings.

Whilst women reported that the extended midwife care in relation to the EPDS was reassuring and not intrusive, the study found a very small number of participants believed they were falsely identified as depressed. This brings into focus the nature of the EPDS as a screening instrument and the importance of accurate feedback.

Administrators need a clear understanding that the EPDS is suggestive of depression and accurate diagnosis needs to follow. Training in effective communicative skills to responsibly discuss results to those being screened is indicated.

SUMMARY

In summary, the overwhelming response from women in this study was that completing questionnaires antenatally to assess risk of perinatal depression was acceptable. They did not report feeling that the questionnaires were upsetting, distressing, confronting or intrusive. Given women's high level of acceptability for depression screening, the results of this study strongly support the use of universal routine screening for antenatal depression in the context of registered midwife support.

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CRITICAL CARE NURSES' KNOWLEDGE IN PREVENTING NOSOCOMIAL PNEUMONIA

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Key words: nosocomial pneumonia, critical care, survey research, endotracheal, ventilation

ABSTRACT

Objective:

The purpose of this study was to identify knowledge deficits concerning nosocomial pneumonia (NP) prevention among critical care nurses. The study also determined whether NP knowledge was associated with nurse characteristics.

Design:

A survey design using a mailed self-administered questionnaire.

Setting:

New Zealand critical care nurses were identified through the Nursing Council of New Zealand.

Subjects:

134 critical care nurses.

Main outcome measures:

NP prevention knowledge score (the proportion of 24 items answered correctly).

Results:

The NP knowledge score ranged from 21% to 92%. The mean (and median) was 48%. Items related to knowledge about NP risks had the highest mean score (67%) compared to items addressing NP prevention (43%) or the role of devices in the transmission of NP (45%). No nurse demographic or workplace characteristic was associated with NP knowledge.

Conclusions:

Several important deficits in nosocomial pneumonia knowledge were identified indicating a need for critical care nurses to have greater exposure to nosocomial pneumonia prevention education, guidelines, and research.

INTRODUCTION

Nosocomial pneumonia (NP), also known as hospital-acquired pneumonia, is a lower respiratory tract infection that was not present or incubating on admission to hospital (American Thoracic Society 2005; UK Comptroller and Auditor General 2000; Tablan et al 1994). NP comprises 15% to 23% of all hospital-acquired infections (Ayliffe et al 1999; Egan et al 1999; Wenzel 1993). In a report of Auckland New Zealand hospitals, NP accounted for 19% of patients with nosocomial infection (n=110) (Nicholls and Morris 1997). Among all nosocomial infections, NP has the highest mortality rate ranging from 13% to over 50% (Liberati et al 2004; Drakulovic et al 1999).

In critical care units (CCUs) NP is the most common nosocomial infection, with prevalence rates ranging from 10% to 70% (Rello et al. 2001; Ibrahim et al. 2000; Nicholls and Morris 1997). Ventilator support is a well known risk factor for NP; the incidence of NP is 6 to 20 times higher in patients treated with continuous ventilatory support (American Thoracic Society 2005). NP develops in mechanically ventilated patients at a rate of one to three percent per day of mechanical ventilation (American Thoracic Society 2005; Ibrahim et al 2001).

Despite the prevalence of NP and its associated high mortality rate, there is little guidance for NP prevention in New Zealand. The Centers for Disease Control and Prevention (CDC) in the United States of America (USA) published a guideline (Part 1) for the prevention of NP in 1994 (Tablan et al 1994), updated in 2003 (Tablan et al 2004). This guideline addresses the common problems encountered by infection control practitioners in NP prevention and control in hospitals. The CDC guideline had been implemented in 98% of 179 USA hospitals surveyed by Manangan et al (2000). Among these hospitals the NP rate decreased significantly after implementation of the guideline. The CDC Guideline for Prevention of NP can be an important resource for educating health care workers regarding prevention and control of NP and was chosen as the benchmark for this study.

Critical care nurses (CCNs) have an important role in preventing NP by decreasing risk factors, recognising early symptoms, and assisting in diagnosis (Myrianthefs et al 2004; Hixson et al 1998).

AIM

It is likely that if CCNs have knowledge about NP prevention, as suggested by the CDC guidelines, the rates of NP could be reduced. Reduced NP rates would benefit patients, reduce critical care lengths of stay, and reduce health care costs. The aim of this study was to determine the level of knowledge that CCNs in New Zealand have regarding NP prevention. The study also determined whether knowledge about prevention correlates with certain nurse characteristics such as education level and length of service.

LITERATURE REVIEW

Numerous potential risk factors and prevention activities for nosocomial pneumonia (NP) have been identified in the literature (figures 1 and 2) (Artigas et al 2001; Ibrahim et al 2001; Rello et al 2001; Leroy et al 1997). Although specific risk factors may differ between study populations, they can be grouped into four categories: host factors, aspiration, inhalation, and cross contamination (Visnegarwala et al 1998).

Host factors include patient age of more than 65 years and co-morbidities. Ibrahim et al (2001) examined 132 patients with ventilator associated pneumonia. Most of the patients had underlying illnesses such as: congestive heart failure (55%), chronic obstructive pulmonsary disease (COPD) (45%), diabetes mellitus (27%), acute renal failure (28%), immuno-compromise (14%), and bacteraemia (9.8%). There are not many things that can be done to alter host factors such as age and co-morbidities. The most promising host factor prevention measure noted in the literature is to maximise nutritional status. Providing adequate nutritional support improves organ function in critical care patients and significantly lowers patients' risk of infection (Marik and Zaloga 2001).

Aspiration is the primary route of transmission of pathogens into the lungs (Porth 1998). Oropharyngeal colonisation, gastric fluid, and enteral feeding are three important factors affecting aspiration. Oropharyngeal colonisation is present in approximately one in four patients on admission to a critical care unit, and by the 10th to 15th day in critical care, approaches 100% (Park 2005; Orgeas et al 1997; Johanson et al 1969).

Among ventilated patients, the endotracheal cuff is likely to increase the risk of NP by allowing orophryngeal secretions to pool above the cuff, become colonised, and then leak into the airway or be dislodged by suctioning, coughing or movement of the tube. Clearing oropharyngeal secretions before handling an endotracheal tube is an important critical care nurse action to reduce the risk of nosocomial infection. Aspiration of gastric fluid is also implicated as a contributory factor for NP (Park 2005; Safdar et al 2005; Orgeas et al 1997) and is related to alterations in secretion of gastric juice, alkalisation of gastric contents and administration of enteral nutrition.

Adequate nutrition promotes immuno-competence in the critically ill patient, which is important in preventing ventilator-associated pneumonia however it also exposes patients to gastric colonisation and aspiration. Studies have shown that for patients given continuous enteral feeding, 54% develop pneumonia within three days (Jacobs et al 1990). Eighty percent of patients who received either continuous or intermittent enteral feeding had gastric colonisation seven days after the start of feeding in another study (Bonten et al 1996). Both continuous and intermittent enteral feeding increase gastric pH and are associated with gram negative colonisation of the stomach. Critical care nurses must be cautious when caring for a patient receiving enteral feeding and implement preventive actions such as checking gastric tube position, measuring gastric residual, assessing patient intestinal motility, and elevating the head of the bed.

Inhalation is another route of transmission of pathogens into the lungs, most commonly caused by mechanical ventilation and contaminated aerosols (Ball 2005; Lawson 2005; Safdar et al 2005; Visnegarwala et al 1998). Respiratory equipment including ventilators, humidifiers, and nebulizers can form potential reservoirs for infection. In ventilator circuitry the highest colonisation occurs at parts nearest the patients, likely due to retrograde sputum colonisation (Park 2005; Safdar et al 2005; Craven et al 1984). Among humidifiers, heated humidifiers may be associated with a higher rate of pneumonia compared with heat moisture exchangers (Cook et al 1998).

When moving ventilator tubing (such as when suctioning, adjusting ventilator settings, feeding or caring for the patient), caution must be taken to avoid spillage of contaminated condensate fluid into the patient’s tracheobronchial tree. Changing humidifier tubing is recommended only when there is gross contamination (Tablan et al 2004; Centers for Disease Control and Prevention 1997; Tablan et al 1994) and changing ventilator circuits is recommended no more frequently than at 48 hour intervals.

Figure 1. Nosocomial pneumonia risk factors addressed in the literature

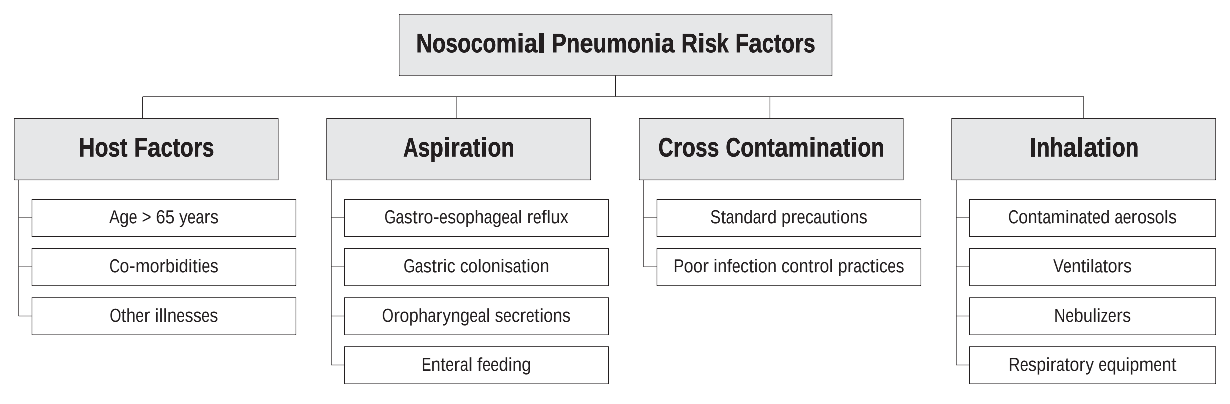
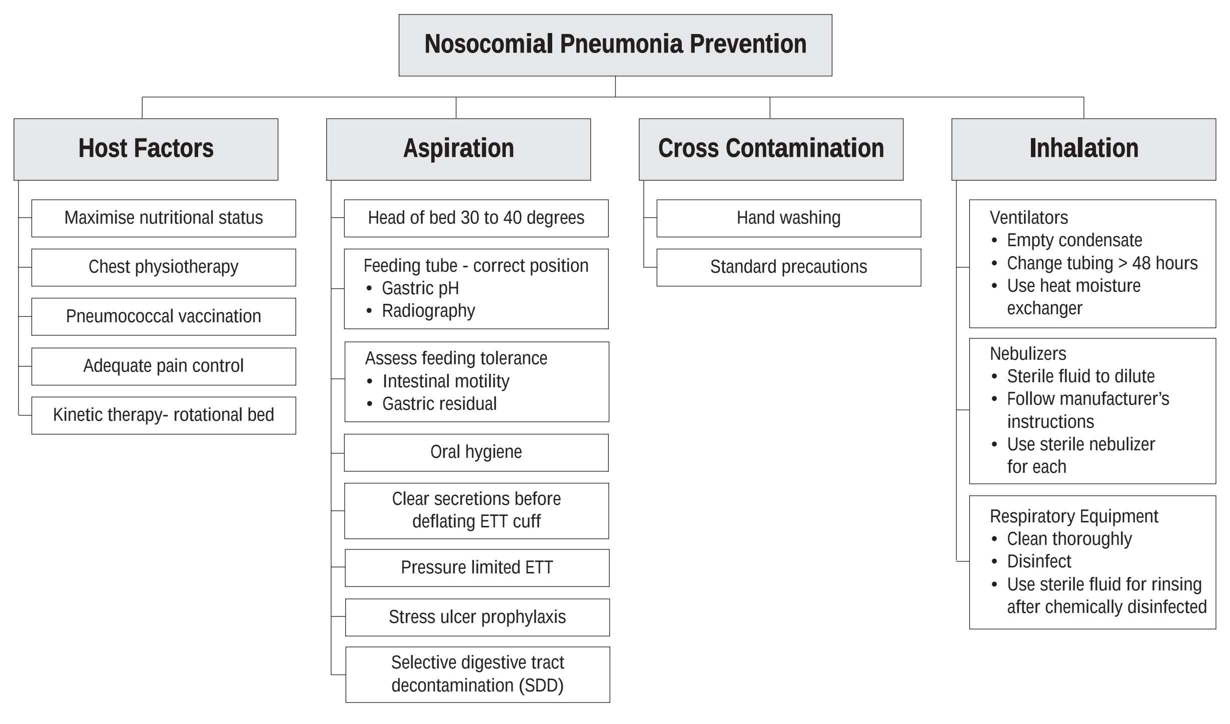


Figure 2. Nosocomial pneumonia preventive measures addressed in the literature



Hospitalised patients are commonly exposed to potentially large inocula of bacteria from a number of sources (American Thoracic Society 2005). In one study, 38% of all nosocomial infections occurring in critical care were attributed to cross contamination (Weist et al 2002). Hand washing is important to avoid cross contamination and is consistently seen to be most effective in preventing NP (Lawson 2005; Boyce and Pittet 2002). Nurses traditionally show high compliance with infection control policy, including hand washing, and respond positively to education (Pittet et al 2000). In contrast to hand washing, the routine culturing of patients, equipment and devices used for respiratory therapy is not necessary (Glupczynski 2001), particularly if the results are not used to improve infection control (Tablan et al 2004; Ayliffe et al 1999). NP strikes many patients in CCUs. Although this is the second most common nosocomial infection, ranking after urinary tract infection, it is by far the most deadly. The ability to identify NP risk factors could help CCNs to plan better care for susceptible patients in the unit.

METHODS

A survey study was conducted using a self-administered questionnaire to determine whether nurses working in critical care units (CCUs) in New Zealand are knowledgeable about the prevention of nosocomial pneumonia (NP) as indicated in the literature and the Centers for Disease Control and Prevention (CDC) guideline (Centers for Disease Control and Prevention

1997). The questionnaire was designed to highlight areas of knowledge that, if were improved, might reduce the rate of NP. The study protocol was approved by the Auckland University of Technology Ethics Committee.

Sample

The target population included CCNs working with ventilated patients in New Zealand. The sampling frame was provided by the Nursing Council of New Zealand (NCNZ). The Nursing Council of New Zealand database included 1599 nurses working in critical care in 2003. Of these, 781 had agreed to receive mailings inviting them to participate in research. A sample size calculation for a dichotomous independent variable such as full time versus part time employment indicated that 128 participants would be required to demonstrate a difference in mean knowledge scores between 15 and 18 (alpha =0.05, power =0.80). It was decided to post the questionnaire to all 781 nurses to allow for non response.

Instrument

A multiple-choice questionnaire (MCQ) was selected for this study because it is a method suitable for testing knowledge (Burton et al 1991) and has high reliability related to consistent and objective scoring (Gronlund 2003; McMillan 2001). The first draft of the multiple-choice questionnaire (MCQ) for this study was developed by the researcher (KLS).

The questionnaire was formatted into three sections. In section one the nurses were asked whether or not they nursed patients on a ventilator. If they did not nurse a ventilated patient, they did not have to proceed with the survey. Section two contained 24 MCQ items testing NP prevention knowledge. Twenty-one of the items were based on the CDC guideline (Visnegarwala et al 1998; Centers for Disease Control and Prevention 1997; Tablan et al 1994); three of the items were adapted from the pulmonary disease board review manual (Balk 1998); and one item was formulated based on a study by Young et al (1999). Each item had only one correct answer. All items had a 'don't know' response option. Section three contained 19 questions about demographic and nurse characteristics. Nurse characteristic items were selected from the Nursing Council of New Zealand Annual Practicing form.

The initial draft questionnaire was sent to clinical critical care and infection control experts (n=10) who assisted in the process of refining the questionnaire. Numerous questionnaire improvements were made based on their feedback. A pilot study in one CCU was then carried out to obtain information regarding clarity of the wording and presentation of the revised questionnaire. No further alterations were needed; the pilot data were therefore included with the posted questionnaire data. All participants in the pilot study were informed not to answer the questionnaire again if they received mailing from NZNC.

Unaddressed mailing packages were provided to Nursing Council of New Zealand (NCNZ) that contained: a cover letter, participant information sheet, the questionnaire, a tea bag (in thanks for completing the questionnaire), and a self-addressed stamped return envelope (to KLS). The NCNZ addressed and posted the survey to all nurses who identified themselves as working in critical care and willing to accept mailings (n=781).

Data analysis

Response rate and sample characteristics were analysed using descriptive statistics. The number of correct NP prevention knowledge answers (out of 24) was standardised by dividing the number of correct answers by the total possible (24) and multiplying by 100. This resulted in NP knowledge score as a proportion of correct responses, ranging from 0% to 100%. The 24 knowledge items were also divided into three domains: knowledge about risks of NP (4 items), knowledge about prevention of NP (8 items) and knowledge about devices (12 items). Overall NP knowledge and domain scores are reported. Students' t-test was used to determine whether NP prevention knowledge score was associated with demographic or nurse characteristic variables that were dichotomous (eg. full-time versus part-time), otherwise Analysis of Variance (ANOVA) was used.

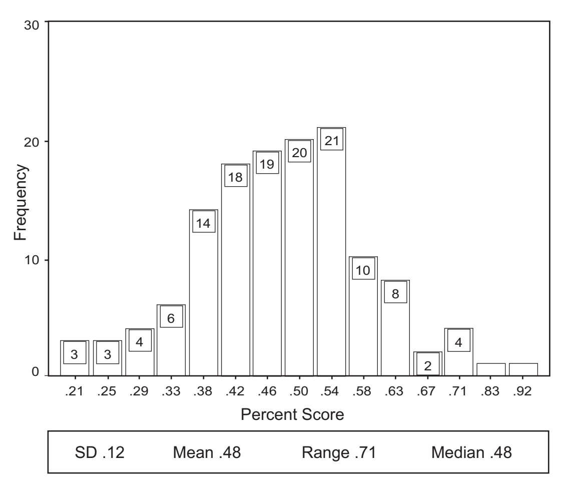
RESULTS

Two hundred fifty-two questionnaires were returned, 135 indicated non-eligibility (103 nurses did not nurse patients with ventilators, 20 did not complete the questionnaire, 12 lived outside New Zealand). One hundred and seventeen completed returned questionnaires, in addition to the 17 completed pilot questionnaires, provided a final sample of 134 New Zealand Critical Care Nurses (CCNs) whose practice included caring for patients with ventilators. Among the 134 participants, most were firstly qualified as diploma or hospital based registered nurses (39% and 44% respectively). When asked whether their work setting had an infection control policy for ventilator-associated NP, 32% responded affirmatively. In the prior 12 months, 35% of participants reported having read one or more articles about ventilator-associated pneumonia and 54% had attended infection control education in the prior 12 months.

The NP knowledge score ranged from 21% to 92%. The mean (and median) was 48% (see figure 3).

The middle 50% of scores (inter-quartile range) were between 42% and 54%. Among individual items, 13 (54%) items had 30% to 80% correct responses (see table 1). The individual item most often answered correctly (92%) was that development of ventilator associated pneumonia in a critically ill patient can result in increased mortality, increased length of stay, and increased cost of care. The item least often answered correctly (4.5%) was that the routine sterilisation or

Figure 3: Nosocomial Pneumonia Knowledge Score



disinfection of the internal machinery of mechanical ventilators was unnecessary (84% of nurses thought the internal machinery needed care 'between patients'). The 'don't know' response was typically used infrequently (<10% of responses to items), however, 58% of nurses responded that they did not know which type of endotracheal tube was associated with the lowest risk of NP (pressure limited cuff).

Examining scores across the three domains, knowledge about risks of NP had the highest mean score (67%), compared with knowledge about prevention (43%) or knowledge about devices (45%). No nurse demographic or workplace characteristic was associated with NP knowledge (see table 2).

DISCUSSION

The typical score (48%) indicated that critical care nurses working in New Zealand have some nosocomial pneumonia (NP) knowledge. Knowledge about risk factors for NP was greater than for NP prevention or the role of devices in the transmission of NP. Two of the device items (types of endotracheal tubes and disinfection of ventilator internal machinery) had correct scores less than 10%. These two items however relate to knowledge and practices which involve collaboration with other health care team members such as the physician and respiratory therapist.

The knowledge deficit about NP prevention is of concern because this relates to an important role for critical care nurses (CCNs); though this component can be addressed through education. However our finding that 46% of CCNs had not had infection control education in the prior 12 months is cause for concern. A National Health Service report of hospital acquired infection similarly identified 'important gaps in the extent to which education and training in infection control is provided to key health care staff', with less than two thirds receiving annual updates' (Comptroller and Auditor General 2000).

Table 1: Individual Nosocomial Pneumonia Item Responses By Domain

Item	Incorrect Choice (%)	Don't Know (%)	Correct Choice (%)
Nosocomial Pneumonia Risk Factors			
Consequences of ventilator associated pneumonia	8.2	Nil	92.8
Nosocomial pneumonia risk factors	16.4	.07	82.8
Risk factors for nosocomial pneumonia associated death	21.6	3.7	74.6
Bacteria most often responsible for ventilator associated pneumonia	76.8	5.2	17.9
Nosocomial Pneumonia Prevention			
Interventions to prevent nosocomial pneumonia	35.8	.07	63.4
Tracheostomy care	37.3	1.5	61.2
Effective nosocomial pneumonia prevention	44.0	3.7	52.2
Unit policies to reduce hospital acquired pneumonia	40.2	9.7	50.0
Nursing actions to prevent aspiration	52.2	1.5	46.3
Interventions to reduce nosocomial pneumonia in the elderly	56.7	3.7	39.6
Feeding related interventions for reducing nosocomial pneumonia	68.6	10.4	20.9
Infection control practices to reduce nosocomial pneumonia	86.6	Nil	13.4
Devices Related to Nosocomial Pneumonia			
Oxygen therapy devices	11.2	Nil	88.8
Care of reusable respiratory devices	19.4	Nil	80.6
Processing of single use and reusable respiratory devices	21.6	0.7	77.6
Positioning of the head of bed	25.3	10.4	64.2
Nebulizer care	38.0	1.5	60.4
Ventilator circuit care	44.0	5.2	50.7
Rinsing solution for devices	50.0	17.9	32.1
Mechanical ventilator maintenance	70.1	Nil	29.9
Heat moisture exchanger	76.1	3.7	20.1
Suction catheter care	75.3	6.7	17.9
Types of endotracheal tubes	34.3	58.2	7.5
Disinfection of ventilator internal machinery	88.8	6.7	4.5

Table 2: Nosocomial Pneumonia Knowledge and Nurse Demographics and Workplace Characteristics

	(n =134)	Mean Knowledge Score	*p*
Nursing Qualification			.44
Hospital Based – registered nurse	58	.47	
Hospital Based – enrolled nurse	2	.39	
Diploma in Nursing – comprehensive	52	.47	
Degree in Nursing	21	.50	
Highest Nursing Qualification			.54
Masters	5	.46	
Bachelor	41	.48	
Postgraduate Diploma	3	.55	
Postgraduate Certificate	17	.45	
Diploma in Nursing	28	.50	
Hospital based – Registered Nurse	33	.46	
Other	2	.58	
Length of Service			.44
1 –5 years	8	.52	
6 –10 years	36	.46	
11 –15 years	29	.46	
Over 15 years	60	.49	
Workplace Number of Beds			.74
< 5 beds	44.0	.48	
5 – 8 beds	50.0	.46	
9 –16 beds	70.1	.48	
> 17 or more beds	76.1	.51	

There is a growing body of literature to inform critical care nursing in preventing NP among ventilated patients (Myrianthefs et al 2004; Harris and Miller 2000). Strong evidence indicates that elevating the head of the bed reduces both the frequency and severity of pulmonary aspiration (Dodek et al 2004; Tablan et al 2004). Regular monitoring of gastric residual in enteral feeding patients is important because persistent high gastric volume predisposes patients to regurgitation and pulmonary aspiration.

Other educational topics include the use and monitoring of heat moisture exchanger (HME), how to identify early signs of pneumonia, when culturing is necessary, and the NP risks associated with suctioning. Finally, education and reinforcement about handwashing is vital. Pittet et al (2000) observed hand-washing compliance before and after implementation of a hand hygiene campaign in Geneva hospital; hand-washing compliance improved from 48% to 66% and the nosocomial infection rate decreased from 17% to 10%.

As well as the growing body of literature identifying evidenced based nosocomial infection prevention activities, numerous internet sites are available to support infection control learning, such as the New Zealand Nurses Organisation National Division of Infection Control Nurses: http://www.infectioncontrol.co.nz/files/home.asp).

LIMITATIONS

There are three important limitations to this study. Firstly, the investigator-developed multiple choice questionnaire (MCQ) was likely to include significant measurement error. Despite having had clinical experts review the MCQ, some distractors were perhaps not well chosen. It is easy to develop one or two good distractors, but developing the third and fourth distractors was significantly more difficult. Educational experts suggest avoiding the use of complex multiple-choice formats such as ‘all the above’, ‘none of the above’, or ‘A and B’ (Haladyna 2004; Kehoe 1995). Inclusion of ‘all the above’ also made it possible to answer an item on the basis of partial information (Gronlund 1993). Questionnaire improvements, in collaboration with educational experts, would be recommended prior to further use.

Secondly, only 30% of CCNs responded to the questionnaire, only 15% meeting entry criteria (working in a New Zealand CCU, nursing patients who are mechanically ventilated). According to Nachmias and Nachmias (1992) a typical response rate for a mail survey without follow up is between 20% and 40%. A higher response rate would be able to more accurately reflect the knowledge level of CCNs in New Zealand. And finally, the researchers had no control over the respondent environment; we do not know for example, whether participants answered the questionnaire individually or as a group.

CONCLUSION

This study’s purpose was descriptive not explanatory and thus has described gaps in critical care nurses’ knowledge regarding nosocomial pneumonia and its prevention. It is hoped that this study raises nurses’ awareness of nosocomial pneumonia risk factors and nursing prevention activities. With increasing awareness and knowledge, nurses can intervene to reduce nosocomial pneumonia infection rates, accompanied by reduced nosocomial pneumonia related mortality, reduced critical care length of stays, and reduced health care costs.

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EDUCATIONAL INTERVENTION FOR PATIENTS WITH AUTOMATIC IMPLANTABLE CARDIOVERTER DEFIBRILLATORS

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Key words: AICD, defibrillator, education, psychological, intervention, counselling

ABSTRACT

Objective:

The aim of this pilot study was to evaluate the feasibility of a brief educational intervention administered two weeks after Automatic Implantable Cardioverter Defibrillator (AICD) implantation on subsequent levels of anxiety, depression, stress and hostility.

Design:

A randomised controlled design was used.

Subjects and setting:

Twenty-two patients hospitalised for implantation of an AICD were recruited for the study. Thirteen patients were randomised to attend the intervention and nine to the standard care control group.

Intervention:

The educational intervention was delivered by a nurse and psychologist. It comprised one 60-90 minute session in which the patient and a significant other received detailed information about the AICD (including practical and psychological aspects), and had the opportunity to ask questions, express concerns and receive reassurance.

Main outcome measure:

The DASS was used to measure anxiety, depression and stress at two, four and six months after AICD insertion.

Results:

Patients who attended the intervention showed no significant improvements or trend toward improvement on any of the measured psychological domains.

Conclusions:

The findings suggest that a single educational session delivered to recent AICD recipients is not sufficient to improve patients' psychological adjustment.

BACKGROUND

The Automatic Implantable Cardioverter Defibrillator (AICD) is a small electronic device that is implanted in patients at high risk for sudden cardiac death due to ventricular arrhythmias. The device monitors heart rhythm and can deliver cardioversion pacing or defibrillation, depending on the type of arrhythmia that occurs. In the last decade AICDs have become the dominant therapeutic modality for patients with life threatening ventricular arrhythmias that cannot be adequately controlled with antiarrhythmic medications. (Crespo et al 2005; Swygman et al 1999). Their efficacy in terminating ventricular fibrillation and tachycardia and preventing sudden cardiac death has been well established (Crespo et al 2005; Ezekowitz 2003; Moss et al 2002).

While the majority of AICD recipients are able to resume their normal activities (Bainger et al 1995) and experience improved quality of life after implantation (Irvine et al 2002), a substantial proportion experience physical and psychological difficulties (Dunbar 2005;

Schron et al 2002; Bourke et al 1997; Hegel et al 1997, 1994). One important factor is related to the therapeutic effect of the device. High energy shocks aimed at halting tachyarrythmias are often not well received by recipients, with some describing them as painful or like ‘a bolt of lightning’ (Dunbar et al 1993). Uncertainty of device discharge is one of the most frequent psychological concerns expressed by many patients (Kuiper et al 1991). Other common problems include side effects of medication; changes in body image; reduced energy levels; sleep difficulties; physical discomfort; reduced ability to exercise, work, do house chores or maintain sexual activity; driving restrictions; and worry over the possibility of device failure (Schron et al 2002; Gallagher et al 1997; Sears et al 1999).

The reported prevalence of psychological disorders among AICD recipients ranges from 15% to 60%, with anxiety disorders (panic attacks, agoraphobia and generalised anxiety disorder), depression, anger and adjustment disorder being frequently cited problems (Bourke et al 1997; Dunbar et al 1996; Pycha et al 1990; Vlay et al 1989). Factors that have been found to increase the risk of psychopathology among AICD patients include poor functional status (Dunbar et al 1999), maladaptive cognitive appraisal and coping style (Dunbar et al 1999; Godemann et al 2001), sporadic (Schron et al 2002) or frequent shocks (Bourke et al 1997; Dougherty 1995; Godemann et al 2001; Goodman et al 1999; Irvine et al 2002), and family problems and inadequate social support (Morris et al 1991).

Because of this increased vulnerability, many hospitals offer support group meetings for AICD patients. Groups are run weekly, fortnightly, monthly or quarterly and aim to provide information, emotional reassurance and social support (DeBasio and Rodenhausen 1984). Reported evaluations of AICD patient support groups suggest they are positively appraised by participants (Badger and Morris 1989; DeBasio and Rodenhausen 1984; Dickerson et al 2000; Molchany and Peterson 1994), however to date there is little evidence that attending such groups leads to enhanced psychological adjustment (Edelman et al 2003).

Given the increased risk of psychopathology within this cohort, some researchers have suggested that AICD recipients should be routinely screened for anxiety, depression and social functioning (Edelman et al 2003; Bourke et al 1997) and patients displaying symptoms of psychopathology should be offered appropriate psychological treatment for their condition. This type of intervention is often referred to as ‘secondary’, in that it is offered to patients at the secondary stage, after problems have developed. An alternative approach is a ‘primary’ intervention, directed at all patients during an early or ‘primary’ stage, before psychological difficulties emerge.

Many researchers have advocated an educational intervention delivered to all AICD patients soon after surgery (Shaffer 2002; Wolbrette and Naccarelli 2001; Dougherty 1997; Burke 1996; Dunbar et al 1993) in order to prevent psychological problems and therefore the need for more intensive treatment at a later stage. Providing information helps dispel misconceptions and provides coping strategies. Brief educational interventions have been shown to reduce anxiety among medically ill patients, including patients attending an examination visit for colposcopy (Walsh et al 2004), women referred for colonoscopy (Marteau et al 1996), women with abnormal Pap smears (Stewart et al 1993) and women awaiting mastectomy (Belleau et al 2001). Brief educational interventions have also been associated with reduced depression among depressed female patients in primary care (Jacob et al 2002) and when delivered via the internet, among individuals with depressive symptomology (Christensen et al 2004).

Patients who are hospitalised to receive an AICD need to assimilate a lot of new information within a short period of time. Information about management of the AICD, prescribed lifestyle changes and recommended action following a shock is usually presented while the patient is in hospital, immediately before or within a few days after surgery. The nature of changes that patients need to accommodate and the volume of information provided can be overwhelming for some, particularly for those who did not know much about AICDs prior to their hospitalisation.

Whether patients are adequately prepared for what lies ahead depends partly on their ability to assimilate new information, the type of adjustments they will need to make (eg retirement; not driving) and their inherent personality characteristics. As anxiety (Ashcraft and Kirk 2001; Hope et al 1998; Hill and Vandervoort 1992), and depression (Kizilbash et al 2002) can impair the ability to retain new information, the material provided to patients in the period immediately following surgery may not be well assimilated. In addition, anxiety can lead to recall bias toward threat related material (Coles and Heimberg 2002; Reidy and Richards 1997), which may interfere with objective processing of new information.

As the length of hospital stay has shortened in recent years, there may also be limited opportunity to provide comprehensive information and respond to patient concerns while they are in hospital. Further, some issues may not arise until after patients have gone home. Inadequate preparation may contribute to subsequent problems with management of the device and/or psychological adjustment, particularly if difficulties arise.

Educational interventions

While many researchers have argued that educational interventions should be part of routine hospital care, to date very few evaluations of such interventions have been reported. In an extensive search of on-line databases (including Medline, PsychInfo, HealthStar, Current Contents and CINAHL) we were able to locate only one pilot study that evaluated educational interventions with AICD recipients (Carlsson et al 2002). In this study 20 patients were randomly allocated to either a nurse-led educational intervention or a standard care control group. The intervention was delivered over two sessions, before and after surgery, with relatives also being able to attend. Assessment using the Nottingham Health Profile (Hunt and McKenna 1992) revealed no significant differences between groups on health-related quality of life. Although the authors report a significant reduction in sleep disturbances among study group participants following the intervention, the summary measures reported suggest that greater reductions in sleep disturbances occurred in the control group.

Two other non-randomised studies examined psychological outcomes of patients attending support groups that included an educational component (Badger and Morris 1989; Molchany and Peterson 1994). While support group participation was not associated with significant benefits, the self-selected nature of the groups, lack of randomised design and poorly defined intervention limit the usefulness of these reports.

Pilot Study

We report on a pilot study that evaluated a brief educational intervention with recent recipients of an AICD. Although patients already receive basic information about the AICD while they are in hospital, this information is standardised and does not address all of the concerns of each individual patient. By providing information two weeks after AICD implantation it was presumed that some of the obstacles to patient attention and engagement in the early hospitalisation period might be avoided. It was hypothesised that comprehensive information about the medical and psychosocial aspects of living with an AICD delivered at this time would help to dispel some of the uncertainties and fears that patients and their family members typically experience in the aftermath of AICD implantation. We expected that if this were the case, it would be reflected in reduced scores on anxiety, depression and stress levels in the intervention group, in the period following the educational program.

METHOD

Sample

Patients scheduled for implantation of an AICD at the Royal North Shore Hospital and the North Shore Private Hospital, Sydney, Australia were recruited for the study. Those with a psychotic disorder or cognitive deficit or with inadequate English to complete the questionnaires were excluded from participation. Patients were approached by a cardiac nurse following their admission to hospital for AICD implantation and were given details about the aims of the study, what their participation would involve and information about approval for the study by the hospital Ethics Committee. Those who provided informed consent were given a set of questionnaires and were asked to complete the forms prior to their surgery. Before the initial questionnaires were processed patients were randomly allocated either to the educational intervention or to a standard care control group. Patients who were randomised to the intervention were invited to attend the hospital with a family member or significant other approximately two weeks following their surgery. Those in the control group received standard care, which included verbal information from the cardiologist and an AICD booklet produced by the device manufacturer.

Intervention

The intervention was delivered by a cardiac nurse and a psychologist over 60 to 90 minutes. Whenever possible, patients were invited to attend with a partner or ‘significant other’. The aim of the session was to provide information, normalise their experiences and give reassurance. The following information was provided:

1. About the AICD: Growing use of AICD for control of ventricular dysrhythmias. Advantages of AICD implantation over medication; types of therapy that it performs (ATP and defibrillation); length of battery life, etc.
2. High level of satisfaction: majority of people who have an AICD are very happy with it, and would recommend it to others; majority resume their previous lifestyle.
3. About device discharge: what to expect; experiences of others with shocks.
4. What to do if the AICD discharges.
5. Safety and potential hazards of the AICD: Objects and places that may generate environmental electromagnetic interference and should be avoided; discourage over-cautious avoidance that is not medically recommended; encourage return to normal lifestyle, within the limits of patients’ particular medical status (eg participation in hobbies, exercise, social activities, etc).
6. Discussion of lifestyle changes following AICD implantation: work, driving, exercise, sexual activity, etc; initial lifestyle restrictions are often temporary, and with time most people resume their normal activities; some patients need to modify aspects of lifestyle in the longer term.
7. Encourage patients to continue regular exercise: eg come to rehabilitation exercise classes, regular walking, gardening, etc.
8. Encourage open communication with family and friends about the AICD.
9. Normalise the feelings and concerns of patients and their family members: eg ‘It is normal to feel anxious or depressed following a major event like having an AICD implanted, however most people tend to recover over time’.

10. Encourage patients to telephone the cardiac nurse should any questions or problems arise.

Instruments:

The primary outcomes of interest (anxiety, depression and stress) were measured using the DASS (Lovibond and Lovibond 1995), which was administered at the time of recruitment (prior to AICD insertion), and at two, four and six months after surgery. The DASS is a self-report measure consisting of subscales on depression, anxiety and stress that has been widely used in research with clinical populations, including patients with heart disease (Lovibond and Lovibond 1995). The scales have high internal consistency, adequate convergent and discriminant validity (Brown et al 1997; Crawford and Henry 2003) and excellent reliability (Brown et al 1997; Crawford and Henry 2003). In addition, a Hostility scale (Koskenvuo et al 1988) consisting of three 5-point semantic differential items was used. The measure has been found to be strongly associated with the incidence of cardiac events and death among men with coronary heart disease (Koskenvuo et al 1988).

Statistical Analysis

Scores on depression, anxiety, stress and hostility were entered into repeated measures ANOVA analysis using age, sex and group as potential predictors.

Table 1: Characteristics of patients enrolled in the study at baseline

Number	22
Males/females	19/3
Married or living with partner	86%
Occupational Status	
Full time work	32%
Part time work	9%
Not working	59%
Received treatment for psychological problems in last 5 years	9%
Shortness of breath	
Not at all	27%
With more strenuous activity	46%
With ordinary activity	23%
Chest pain or palpitations	
Not at all	82%
With more strenuous activity	18%
Trouble breathing in bed at night	14%
DASS anxiety score – mean (SD)	7.5 (7.4)
% in the clinically significant range	18%
DASS depression score – mean (SD)	7.0 (7.8)
% in the clinically significant range	14%
DASS stress score- mean (SD)	10.6 (9.0)
% in the clinically significant range	14%
Hostility Scale Score	6.4

RESULTS

Twenty-seven patients were recruited for the study however five of these stated that they would not be able to attend an intervention (due to distance), and were therefore not randomised. The remaining 22 patients were randomly allocated either to the educational intervention (n=13) or to a standard care control group (n=9). Table 1 summarises the background characteristics of the patients registered in the study at the baseline assessment.

Table 2: Comparison of Psychological Scores of Groups at Baseline Mean (SD)

Measure	Intervention	Control
DASS depression	8.9 (6.3)	8 (10.8)
DASS anxiety	6.3 (5.2)	9.8 (12.2)
DASS stress	11.2 (6.9)	10.0 (12.1)
Hostility	7.2 (2.6)	5.2 (3)

Psychological Outcomes

No significant differences in depression, anxiety, stress or hostility were found between the Intervention and Control groups at baseline (table 2). Age, sex and group were tested for association with changes in the DASS and Hostility scores over the four occasions. The critical alpha was set at 0.0125 to account for the four variables tested. There were no significant relationships between participation in the intervention and subsequent scores on psychological outcomes on any occasion of measurement, and there was no trend suggesting psychological benefits associated with the intervention (table 3). There were no interaction effects between age, sex, group and psychological outcomes.

Table 3: Effects of intervention (Interaction Contrast of Group by Occasion)

Measure	2 months	4 months	6 months
DASS depression	F[1,15] = 0 p = 1	F[1,16] = 0.67 p = 0.43	F[1,12] = 0.02 p = 0.89
DASS anxiety	F[1,15] = 0.3 p = 0.59	F[1,16] = 0.3 p = 0.59	F[1,12] = 2.3 p = 0.16
DASS stress	F[1,15] = 0.04 p = 0.85	F[1,16] = 0.08 p = 0.78	F[1,12] = 0.26 p = 0.62
Hostility	F[1,15] = 0.23 p = 0.64	F[1,16] = 0.003 p = 0.96	F[1,12] = 0.13 p = 0.72

DISCUSSION

Although many health professionals have advocated that comprehensive patient education should be provided to all AICD recipients and their family members, very few educational programs have been quantitatively evaluated. The aim of this pilot study was to examine the feasibility of a brief educational intervention delivered two weeks after surgery, and to examine its potential for improving patients' level of adjustment. While the procedures were straight forward, the analysis revealed no reduction in anxiety, depression, stress or hostility at any of the assessment periods.

A major limitation of the current study was the small sample size. It is possible that a similar intervention with a substantially larger sample may have identified benefits on psychological outcomes. However the absence of a trend towards psychological improvement following the intervention suggests that a significant benefit was unlikely to emerge, or at the very least, an extremely large sample size would be required to detect any possible benefits. The finding is also consistent with those of a pilot study (Carlsson et al 2002) and two small non-randomised studies (Badger and Morris 1989; Molchany and Peterson 1994) with AICD patients.

While there is little evidence that a purely educational program can improve psychological outcomes in AICD recipients, it is possible that a more targeted and sustained intervention, with greater emphasis on psychological coping strategies could produce more substantial benefits (Kohn et al 2000).

One factor that may account for the failure of the intervention to influence psychological outcomes is its brevity. It is possible that a more intensive intervention run over several sessions in group or individual format might have yielded a measurable benefit. However even if this were the case, the relative costs and benefits of an intensive primary intervention may need to be weighed up against those of a more targeted secondary intervention, particularly if psychological adjustment is the main issue under consideration.

As to date there is little evidence that brief educational interventions can reduce the risk of psychological dysfunction among AICD patients it may be that well-targeted secondary interventions are more effective for the management of mental health problems that arise within this cohort. Few studies have evaluated psychological interventions with distressed AICD patients (Edelman et al 2003), however one randomised trial with this cohort (Kohn et al 2000) and other trials that targeted cardiac patient groups (Berkman et al 2003; Freedland et al 1996; Friedman et al 1986) suggest that evidence based psychotherapy such as Cognitive Behaviour Therapy (CBT) is an effective treatment for psychological problems. It is therefore possible that an intervention of this type may prove to be a suitable treatment for AICD patients who develop psychological distress.

The failure to find improvements on psychological outcomes does not imply that educational interventions are not useful. It is The AICD is a technologically complex device used in the management of life-threatening illness, and has major implications for patients' lifestyle and quality of life. It is important that patients have a clear understanding of how the AICD works, safe versus potentially hazardous situations, problems that may arise and how to deal with them, and psychosocial issues associated with the device.

Educational interventions have been found to improve compliance to treatment and survival time among cancer patients (Richardson et al 1990). While there is no similar evidence for AICD patients, education about the device is at the very least important for effective management and minimisation of problems. As stated by Dougherty (1997) 'educational programs should focus on the provision of new information required to effectively manage illness at home and new behaviours that are required to live safely with the AICD and prevent complications' (p.47).

Support for patient education programs comes not only from health care professionals but also from patients. In a survey of 78 patients who had received an AICD at least one month previously, nearly two thirds stated that they would have liked to have had attended a hospital teaching program on AICDs (Reid et al 1999). The desire to learn more about the AICD is also one of the factors underlying the increasing popularity of support groups run at many suburban hospitals (DeBasio and Rodenhausen 1984). Without comprehensive information patients may otherwise be confused about aspects of management of their AICD. Indeed, there is evidence that AICD patients frequently avoid activities, objects and places for which no medical recommendation had been made (Lemon et al 2004).

CONCLUSION

The findings suggest that a single educational session delivered to recent AICD recipients is not sufficient to improve patients' psychological adjustment. While educational programs may not directly affect psychological adjustment, they may never the less affect patients' quality of life and willingness to participate in wide range of life-enhancing activities.

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THE EDUCATIONAL NEEDS OF NURSES WORKING IN AUSTRALIAN GENERAL PRACTICES

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Key words: general practice, education, primary care, nursing education

ABSTRACT

Objective:

To describe the educational needs of nurses working in general medical practice in Australia.

Design:

Survey research combining qualitative and quantitative data collected via telephone interview.

Subjects:

222 enrolled (RN Division 2 in Victoria) and registered nurses (RN Division 1 in Victoria) working in general practice in rural and urban areas of Australia.

Results:

Nurses identified a number of educational areas of high importance including communication skills (94.1%); infection control (93.7%); confidentiality and national privacy legislation (93.7%); legal and ethical issues (91.9%); first aid and CPR (91.4%); wound care (91.0%); cold chain monitoring (90.0%); sterilisation (90.0%); and triage (90%). Barriers to education were identified including lack of time due to work (21.9%); costs of courses (17.3%); distance to education (13.9%); and lack of time due to family commitments (13.1%). More rural/remote nurses identified distance as a barrier (20.5%) than urban nurses (3.6%).

Discussion:

The education areas that were rated as important by a high number of the nurses appeared to relate directly to the activities nurses currently undertake in Australian general practice. Barriers to education may reflect the workforce characteristics of general practice nurses and/or the capacity of general practices to finance training for employees.

Conclusions:

As a growing specialty of nursing in Australia, general practice nursing should be supported by a solid foundation of ongoing education and training that is tailored to the current needs of nursing in general practices and reflects appropriate delivery options to overcome barriers to training.

INTRODUCTION

General practice nursing demonstrates exciting possibilities in the way in which nurses can collaborate with general practitioners (GPs) to enhance the quality of primary health care provided to the Australian community. The quality of care provided by these nurses rests on the foundation of education, training and support available to them to maintain their skills.

Despite the fact that nurses have long worked in general practice in Australia and other countries, there is limited literature on the scope of their roles (Vincent et al 2002; Hanna 2001; Condon et al 2000; Patterson et al 1999; O'Connor and Parker 1995; Ross et al 1994) and even less on the educational needs of 'practice nurses' or general practice nurses. General practice nursing in other countries (notably the United Kingdom and New Zealand) has been supported systematically to develop and provide professional infrastructure such as competency standards, role descriptions, career and educational pathways and professional organisational support.

There is growing enthusiasm for general practice nursing in Australia including the establishment of a professional organisation, the Australian Practice Nurse Association, the recent development of post-graduate training in general practice nursing and Government provided financial incentives for general practices to employ nurses; the latter in particular locations and to carry out particular responsibilities such as wound care. In order to support these diverse roles for nurses, a solid foundation of education, training and ongoing professional development is essential.

AIMS

The Royal College of Nursing Australia (RCNA) and the Royal Australian College of General Practitioners (RACGP) completed a project funded by the Australian Government Department of Health and Ageing which aimed to explore the roles and educational needs of nurses working in general practice. This paper will discuss the results of a national telephone survey of nurses working in general practice carried out as one of the project activities. Specifically the educational needs of general practice nurses and the barriers to undertaking further professional development will be examined.

The telephone survey results relating to the workforce characteristics and current roles of general practice nurses have been reported elsewhere (Pascoe et al 2005), and indicate that general practice nurses in Australia are likely to be registered nurses who work part-time in a medium to large practice. Often the nurse has worked less than five full-time equivalent years in a general practice environment and is likely to work in a practice where at least one other nurse works. The nurse is likely to have some post-basic formal education and to have participated in professional development in the past two years.

METHODOLOGY

Design

A telephone survey of nurses working in general practice was designed on the role and educational needs of nurses in general practice drawing on published and unpublished research undertaken in Australia and internationally.

Sample

The survey was administered to 222 nurses (188 enrolled and 34 registered nurses) currently working in general practice settings in Australia. The convenience sample of nurses was recruited through a national marketing campaign with nurses responding to recruitment advertisements placed in nursing and general practice publications. Nurses contacted the project managers to express their interest in participating and provided consent.

As part of the research brief for the Australian Government Department of Health and Ageing, at least 50% of the sample was to be drawn from rural or remote areas of Australia. The standard classification for rurality employed for the survey was the Rural, Remote and Metropolitan Area (RRMA) classification system (Australian Government Department of Health and Ageing 2006). Survey participants were classified into RRMA category (capital city, other metropolitan, rural or remote areas) based on the location of their primary general practice employer. Due to the small number of participants from remote areas, the categories 'rural' and 'remote' were collapsed into one rural/remote category for reporting purposes.

Instrument

The survey contained 19 quantitative and qualitative questions focusing on workforce characteristics, educational background and needs, current nursing activities and future aspirations. Nurses were asked to rate on a scale of one to five (one being very important and five being not important) their perception of the importance of 51 educational areas for their own role in general practice. For ease of presentation, the scale for responses was collapsed to represent the total responses for 'important' and 'not important' ratings.

The survey was pilot tested and amended accordingly prior to being administered using a Computer Assisted Telephone Interviewing methodology by an external data collection agency. Nurses were surveyed by telephone outside of working hours and the survey took approximately 15-25 minutes to complete.

Data analysis

Quantitative data was analysed using the Statistical Package for the Social Sciences (SPSS) with descriptive statistics and selected cross-tabulations. A percentage difference of 10% or more was used as a determinant of substantial urban/rural difference in this analysis. Qualitative data was thematically coded by two project managers in consultation with the data collection agencies.

The research was approved by the RACGP National Research and Evaluation Ethics Committee.

RESULTS

As indicated in table 1, a number of educational areas were rated as important by almost all the nurses (or over 90% of the sample) including: communication skills, infection control, confidentiality and privacy, legal and ethical issues, first aid and cardio pulmonary resuscitation (CPR), wound care, cold chain monitoring, sterilisation and triage.

Table 1: Percentage of sample by RRMA classification by collapsed ranking of importance of educational areas for current role of nurses in general practice

Educational Area	Rated Important Rural/Remote N = 130	Rated Important Urban/Metro N =92	Rated Important Total Sample N=222
Communication skills	94.6	93.4	94.1
Infection control	93.8	93.4	93.7
Confidentiality/National Privacy Principles	94.6	92.3	93.7
Legal/Ethical issues	92.3	91.2	91.9
First Aid/CPR	91.5	91.2	91.4
Wound care	89.2	93.4	91.0
Cold chain monitoring	89.2	91.2	90.0
Sterilisation	88.5	92.3	90.0
Triage	90.8	89.0	90.0
Enhanced Primary Care activities	90.8	87.9	89.6
Practice accreditation	85.4	90.1	87.3
Patient advocacy	88.5	82.4	86.0
Care of the seriously ill patient	86.2	78.0	82.8
Information technology	83.8	78.0	81.4
Management of recall register	77.7	86.8	81.4
Dealing with difficult clients	82.3	79.1	81.0
Oxygen administration	80.8	76.9	79.2
Policy and procedure development	79.2	78.0	78.7
Diabetes management	78.5	78.0	78.3
Role of allied health professionals/community organisations	77.7	76.9	77.4
Conflict resolution	78.5	73.6	76.5
Asthma management	75.4	75.8	75.6
Handling complaints	76.2	73.6	75.1
Pharmacology/medication administration	79.2	69.2	75.1
Cardiac assessment	76.9	70.3	74.2
Pulmonary assessment	76.2	67.0	72.4
Cultural diversity	70.3	68.5	69.2
Minor procedures	62.6	73.8	69.2
Clinical data management	69.2	65.4	67.0
Child health	59.3	68.5	64.7
Pathology collection	58.2	68.5	64.3
Immunisation	68.1	59.2	62.9
Chronic disease management	69.2	57.7	62.4
Patient referral management	65.9	57.7	61.1
Cardiovascular health/management	61.5	57.7	59.3
Physical assessments	49.5	62.3	57.0
Practice administration	53.8	53.1	53.4
Injury prevention	52.7	52.3	52.5
Evidence base practice/research	49.5	52.3	51.1
Cancer education	52.7	49.2	50.7
Case management	45.1	50.0	48.0
Drug and alcohol management	54.9	43.1	48.0
Antenatal care/maternal health	44.0	48.5	46.6
Nutrition/weight management	53.8	41.5	46.6
Mental health	45.1	44.6	44.8
Arthritis/musculoskeletal management	45.1	36.9	40.3
Audiology	31.9	45.4	39.8
General practice billing/funding	31.9	40.8	37.1
Women's health	33.0	37.7	35.7
Family planning	28.6	27.7	28.1
Lactation advice	25.3	24.6	24.9

Table 2. Percentage of sample by RRMA classification by barriers faced to undertaking training / education

Barrier to Education	Rural/Remote N = 130	Capital/Metro N = 92	All Areas N =222
Lack of time – work	17.5	28.7	21.9
Lack of finances - course costs	13.3	23.6	17.3
Distance to available training	20.5	3.6	13.9
Lack of time - family commitments	13.0	13.3	13.1
Lack of finances - travel costs	9.7	2.1	6.8
Attitude of GPs	5.5	4.6	5.2
Lack of awareness of available training	3.9	5.6	4.6
Inappropriate topics	2.3	5.1	3.4
Attitude of practice managers	1.0	2.6	1.6
Education activities not formally recognised	1.6	1.0	1.4
Difficulty in finding relief nursing staff	2.3	0.0	1.4
Difficulty with child care	0.6	1.0	0.8
Attitude of other nurses	0.0	0.5	0.2
Other	6.2	4.6	5.6
No barriers	2.6	3.6	3.0
TOTAL	**100.0**	**100.0**	**100.0**

In terms of the educational needs of nurses who work in rural and urban locations, table 1 demonstrates that, by and large, education in the same areas is required by nurses working in both localities, with communication skills, infection control, confidentiality and privacy, legal and ethical, and first aid and CPR being rated as important by over 90% of the nurses in both urban and in rural locations.

There are however, a number of notable differences between what is rated important for education by rural and urban nurses. Particularly table 1 indicates that more rural and remote nurses rate pharmacology/medicine administration, chronic disease management, drug and alcohol management and nutrition/weight management more important than do their urban counterparts. However substantially more urban nurses rate pathology collection, physical assessments and audiology as important areas of education.

The main barriers to undertaking education that nurses reported are: lack of time due to work commitments (21.9%); lack of finances to meet course costs (17.3%): distance to available training (13.9%) and lack of time due to family commitments (13.1%) as outlined in table 2. There were a number of differences based on the location of the nurse's main practice with substantially more rural nurses (20.5%) identifying distance to training as a pertinent barrier as opposed to urban nurses (3.6%). More urban nurses tended to identify lack of finances (23.6%) and lack of time due to work commitments (28.7%) as barriers to undertaking education or training.

DISCUSSION

Nurses working in general practices in Australia have identified those areas of education that are most important to their current roles. Whilst nurses recognise the need to update or maintain their clinical knowledge (such as first aid and CPR), they also identify a range of important education areas that are non-clinical in nature and relate to organisation of information and communication strategies (such as communication skills and confidentiality/privacy). These are consistent with the current role of general practice nurses as described in previous literature (Pascoe et al 2005; Vincent et al 2002; Hanna 2001; Condon et al 2000; Patterson et al 1999; O'Connor and Parker 1995; Ross et al 1994) and suggests that nurses are defining education in the areas that would directly support their current work activities (such as wound care and sterilisation) as important.

Interestingly, there are only a few differences in the educational areas considered important by rural and remote nurses in comparison to capital city or metropolitan nurses. These differences do not seem to be related to the activities performed as part of their role as their roles have been established as similar despite locality differences (Pascoe et al 2005).

Difference in education needs may however reflect access to local health resources and education and in fact rural/remote nurses identified distance as a salient barrier to them undertaking further education to support their roles in general practice. It may be that education in the topics identified as important by more rural nurses (such as pharmacology/medicine administration or drug and alcohol management) are not available in rural areas of Australia and are therefore rated more important because of a current and previous lack of access to education on these topics.

A number of barriers to accessing education and professional development were identified by the nurses with lack of time, distance and costs being the main impediments. As this was the first national study into barriers to education faced by these nurses, it is unclear if all nurses in Australia face these barriers. The representativeness of the sample for the survey is unknown. Whilst the sample size is small (n=222), no baseline data exists for identifying the absolute population of general practice nurses in Australia. It appears that the sample is over-represented by nurses working in rural/remote areas however given the need to explore geographic impacts on the educational needs of nurses it was important that these nurses were over-sampled.

The barriers to accessing education that were identified by nurses in this study may be exacerbated by the workforce characteristics of these nurses (namely part time employment) and/or the capacity of general practice to finance training for nurses (both through direct education costs and also time out of the practice).

CONCLUSION

The study has identified a range of educational areas suggested as important by nurses working in general practice. These educational areas appear to reflect the current role of nurses, rather than any expanded or aspirational role in general practice. It would appear prudent that the development of education and training programs reflect these priority areas for current nursing practice and be tailored to the particular needs of the general practice environment. A number of barriers to education were also identified with more rural/remote nurses identifying distance to education as a particular barrier. Further work should be completed to determine the frequency, nature and quality of education for general practice nurses.

As a growing specialty of nursing in Australia, general practice nursing should be supported by a solid foundation of ongoing education and training that is tailored to the current needs of nursing in general practices and reflects appropriate delivery options to overcome barriers to training.

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ENROLLED NURSE SKILL EXTENSION: METROPOLITAN MYTH OR RURAL REALITY?

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Key words: advanced practice, enrolled nursing, legal authorisation, surgical nursing

ABSTRACT

Objective:

The objective of this study was to examine whether the position of 'after hours clinical support enrolled nurse' is embracing clinical skill extension in the acute surgical area.

Design:

Experienced enrolled nurses employed in a supernumerary capacity documented all activities with which they were engaged over a six-month period.

Setting:

Six surgical wards within a tertiary referral hospital, Sydney, Australia.

Subjects:

Enrolled nurses working after hours in an extended support role in a supernumerary capacity.

Results:

Data demonstrated that, in this study, the 'after hours clinical support enrolled nurse' was primarily performing routine nursing activities. Although the number of extended skills (n=13) performed could be considered diverse for an enrolled nurse, many were seldom performed. The most frequently performed extended skills were patient escorts and undertaking bladder ultrasounds with a mobile scanner. Medication administration was rarely performed.

Conclusion:

The role primarily incorporates basic nursing care with minimal scope for extended skills. The paper recommends that basic nursing practices be delegated to assistants in nursing to enable the 'after hours clinical support enrolled nurse' to effectively support registered nurses and extend their own practice.

INTRODUCTION

Nursing work has changed dramatically over the years leading to increased professionalism and more diverse and complex roles (Magennis et al 1999). Many factors have contributed toward this change including: increased health-care costs; technological advancement; the ageing population (O'Connell and Ostaszkiewicz 2005; Finlayson et al 2002); shorter hospital lengths of stay; increasing patient acuity (Finlayson et al 2002); community expectations; and medical practitioner reluctance toward some service provision (Pearson and Peels 2002), leading to nurses taking on tasks previously undertaken by doctors and other health professionals (Kenny and Duckett 2004; Pearson and Peels 2002). The effect of these factors on nursing is greater specialisation and advanced practice.

The shift in registered nursing work has opened avenues for enrolled nurses (ENs) to extend their own practice. More ENs are specialising in acute care areas (Milson-Hawke and Higgins 2004) and undertaking (often at their own discretion) additional nursing activities (Bunt and Gibbs 2004). Considering recent curricula changes to EN training endorsing medication administration (for example, NSW Health 2005) and the proposed national competencies, examination of EN extended practice is timely.

LITERATURE REVIEW

Much literature has been published in Australia and the United Kingdom (UK) examining EN status, role responsibilities (Milson-Hawke and Higgins 2004; Iley 2004; Kimberley et al 2004; Bunt and Gibbs 2004; Stubbings and Scott 2004; Gibson and Heartfield 2003;

Milson-Hawke and Higgins 2003) and reasons for or barriers to registered nurse (RN) conversion (Kenny and Duckett 2005; Iley 2004; Webb 2001; Webb 2000) but few have examined which extended skills are being embraced by ENs.

The Australian EN role was considered restrictive (Pearson 2002) and has subsequently expanded to incorporate medication administration, patient assessment and treatment provision (Duckett 2005). Variation exists however between practice and delegated responsibilities depending upon employment conditions and geographical location (Kimberley at al 2004; Gibson and Heartfield 2003; Milson-Hawke and Higgins 2003; Webb 2000) with rural ENs having greater responsibility (Kenny and Duckett 2005; Kenny and Duckett 2003) compared to their metropolitan counterparts. However there is also practice disparity within hospitals, on individual wards (Bunt and Gibbs 2004) and according to staffing levels (Kenny and Duckett 2005; Milson-Hawke and Higgins 2003).

Despite findings that EN work is simular to that of RNs (Webb 2000; Francis and Humphreys 1999) EN training was discontinued in the UK (and temporarily in New Zealand) in preference for a single level, diploma qualified RN, to enhance nursing professionalism (Francis and Humphreys 1999). Career limitations have also been broached in the Australian literature with suggestions for a degree qualification (Duckett 2005) or two-year traineeship to broaden skills and ultimately increase EN staffing levels (Duckett 2000). Kimberley et al (2004) however, argue that despite activity similarities, gaps remain between ENs' and RNs' knowledge depth, and capacity for assessment and decision-making.

EN Demographics

ENs comprised 19% of full time equivalent (FTE) nurses in the Australian nursing labour force in 2004. While employed FTE ENs increased by 7.4% from 1999-2004, the ratio of ENs to RNs declined from previous years as the number of employed RNs has increased (Australian Institute of Health and Welfare 2006).

Victoria has the highest supply of ENs, followed by South Australia and the ACT. The majority of ENs (53%) are employed in major cities, while approximately 42.3% work in regional or remote areas (Australian Institute of Health and Welfare 2006).

Employed ENs are overwhelmingly female (91%) with an average age of 43.6 years. The proportion of enrolled nurses who were male increased from 6.7% in 1999 to 9.1% in 2004. Data from 2004 demonstrated that the majority of ENs (92.3%) worked in a clinical capacity, primary medical or surgical (34.3%) and aged care (31.3%) (Australian Institute of Health and Welfare 2005).

OBJECTIVE

This study aimed to determine if experienced ENs working in a supernumerary capacity, within a tertiary level metropolitan hospital are practising skill extension in the surgical environment.

METHOD

Sample

This study examined the role of After Hours Clinical Support Enrolled Nurses, hereafter called After Hour ENs (AH ENs) in a tertiary metropolitan hospital from January to June 2004. The study was part of a formal role evaluation as the after hours (AH) role was initially implemented for a trial period of one year. The AH team consisted of experienced ENs and RNs who provide clinical support to ward nurses, weekdays from 1700-2300hrs. Both the EN and RN role is job shared by part-time nurses.

The nurses, considered to be experienced, primarily cover six surgical wards, incorporating the specialities of orthopaedics, cardio-thoracic, gastro-intestinal, neuro-surgery, vascular, urology, high dependency and head, neck and plastics.

Instrument

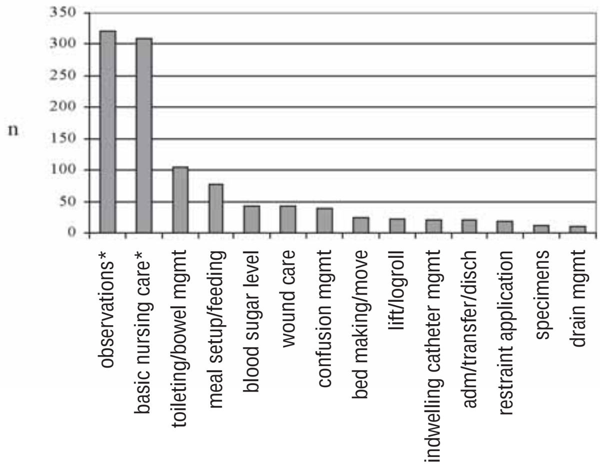
The AH ENs documented chronologically in an A4 diary all activities with which they were involved during the nursing shift. Documentation included the time activity commenced and designation of staff member being assisted (if applicable). These activities were then coded and analysed utilising Microsoft Access software.

RESULTS

The results demonstrated that the AH EN was involved with a diverse range of clinical nursing activities ranging from basic nursing care to more advanced practices over the six-month period.

The majority of nursing activities performed by the AH EN were those traditionally associated with the EN role (Gibson and Heartfield 2003). Figure 1 demonstrates that patient observations (n=322) were the most frequently performed activity over the six-month period followed by basic nursing care (washing, pressure area care etc) (n=310). Patient toileting (n=104) and meal tray set-up and/or feeding (n=78) were also frequently undertaken. It should be noted that patient observations and basic nursing care as depicted in figure 1 refers to episodes of care and not patient numbers as these activities are customarily performed on multiple patients in several patient rooms.

Figure 1: Number of self-documented nursing activities performed by the AH EN

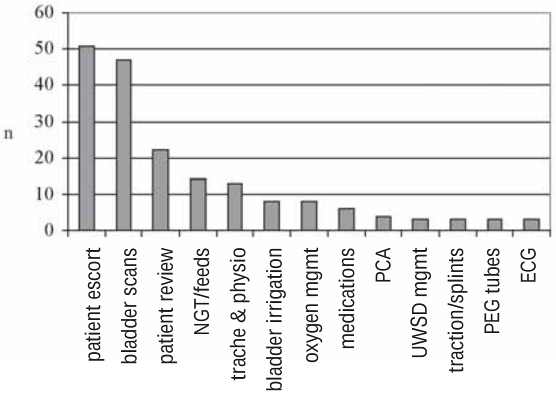


Blood sugar levels (n=44) and wound care (n=42) were performed relatively frequently. More specific nursing practices eg indwelling catheter management (n=21) and admitting, transferring or discharging patients (n=21) were performed on average less than once per week. Management of postoperative drains were documented as being performed on ten occasions (refer to figure 1).

The AH EN performed a diverse range of advanced nursing practices however in the majority of cases these were not undertaken frequently (refer to figure 2).

The most frequently performed extended practices were patient escort (n=51) primarily escorting patients from the post-anaesthetic care unit (PACU) to wards and conducting bladder scans using a mobile ultrasonographical scanner (n=47). Anecdotal evidence of repeated machine malfunction led to this investigative procedure being restricted to specialist urology nurses and AH ENs within the surgical division at this hospital and thus has been classified as an extended practice in this paper. Twenty-four instances of bladder retention or residual urine were identified following bladder scans. By contrast, attending to bladder irrigation was much less frequent (n=8).

Figure 2: Number of self-documented extended practice activities performed by AH EN

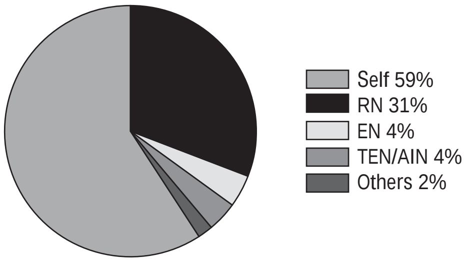


The EN reviewed and assessed 22 post-operative patients in response to requests by RNs to check individual patients. This includes requests by medical and oncology ward staff for advice on surgical outliers (n=5).

Medication administration, a relatively recent addition to the role of the EN within NSW, was undertaken on six occasions. Some practices common to surgical specialities were also infrequently performed eg oxygen management, observations related to patient controlled analgesia (PCA) and underwater seal drainage (UWSD).

Figure 3 demonstrates that although AH ENs primarily worked alone they assisted RNs (n=137) with workload to a much greater extent than they assisted other ENs (n=19) and trainee enrolled nurses (TENs) (n=15). The 'other' category includes nurse managers, medical officers and security personnel.

Figure 3: Pie chart demonstrating the designation of staff assisted by the AH EN.



DISCUSSION

This research project concentrated on the role of the after hours EN and their participation in advanced practices. The role requires broad nursing knowledge and expertise to work in such a diverse range of areas. The findings from this study indicate that while AH ENs are exposed to a range of surgical specialities, their participation with extended nursing practices is limited.

Data relied on self-documentation and therefore inaccuracies from under reporting may have occurred, particularly during busy periods. Conversely, previous observational studies of clinical ENs found limited evidence of extended EN practice (Blay 2005; Gibson and Heartfield 2003) despite nurses' verbal reports indicating otherwise (Milson-Hawke and Higgins 2004; Kimberley et al 2004; Gibson and Heartfield 2003). The AH EN may have been hesitant to document practices that could be seen to be beyond their legal authority.

Variation exists between hospitals as to what nursing activities are considered advanced practice or an extension of skills. It is of concern that ENs may be accredited to practice specified skills in some metropolitan hospitals while comparable hospitals within the same area health service have policies restricting ENs using those same skills. In contrast the literature demonstrates that rural ENs practice to a higher level with limited RN supervision.

Another possible reason for infrequent practice of some skills by the AH EN is that some practices are restricted to the ward that has accredited them (St. George Hospital and Community Health Service 2005) thus limiting the scope of the AH team. One potential advantage of EN national nursing competencies as proposed by the National Enrolled Nurse Project (NSWNA 2005) is the standardisation of EN practice between States and hospitals, ameliorating these discrepancies. Managers' and colleagues' attitudes toward advanced RN roles impact on their implementation (Lloyd Jones 2005) and while opinions on the extended EN role have not been sought it could be assumed that within some organisations and/or clinical areas opposition may prevail. Focus groups conducted with trainee enrolled nurses (TENs) undertaking medication administration accreditation have highlighted negative attitudes toward them on some wards (Reardon 2005).

The EN legally remains under the direct or indirect supervision of an RN. Therefore it is not surprising that the AH EN worked predominantly with RNs. The majority of time the AH EN worked alone even though they were meant to be supernumerary for the purpose of the pilot. In this situation the 'floating' nurse might be allocated miscellaneous tasks converse to team nursing or patient allocation. Only 8% of the AH EN activities were in conjunction with other ENs and/or TENs.

The AH ENs are performing routine nursing practices that in some organisations are undertaken by health care assistants (Iley 2004). The delegation of tasks to health care assistants has been described by ENs as an erosion of their role (Kenny and Duckett 2005). However basic task delegation is becoming a necessity as the number of admissions of older people and people with chronic illness increase (Duckett 2005; O'Connell and Ostaszkiewicz 2005).

The use of health care assistants or assistants in nursing will free qualified nurses, particularly ENs, to attend to more complex treatments and practices. It is certainly not advocated that health care assistants and/or assistants substitute for ENs in nursing but that they are employed as an adjunct to the ward team. Indeed, much has been written regarding the deterioration in care and patient outcomes with changing skill-mix and a reduction in nurse-patient ratios particularly the number of qualified RNs (Stanton 2004; Sochalski 2004; Duffield and O'Brien-Pallas 2002). However, as both metropolitan and rural ENs freely admit to practicing beyond their legal responsibilities (Kenny and Duckett 2005; Blay 2005; Bunt and Gibbs 2004), without adequate education and/or accreditation it is likely that patient safety is currently being compromised. In the words of rural ENs:

'Without a doubt as an enrolled nurse in a rural hospital we frequently undertake duties that are really RN roles' (Kenny and Duckett 2005, p.427).

'They are happy for ENs to do things when there is none [sic] else around that is beyond their legal scope of practice…' (Kenny and Duckett 2005, p.427).

This last comment implies that the individual EN is not responsible for their actions as 'they' (management or RNs?) are 'indirectly encouraging' the practice. This raises some interesting concerns as to whether organisations are knowingly permitting unauthorised practice, if ENs have verbalised (and/or documented) any apprehension and whether ENs are performing these tasks under supervision.

Evidence has demonstrated that ENs who were dissatisfied with their role and had an interest in technical skills were more likely to convert to RNs (Iley 2004) perhaps indicating that these ENs are more mindful of legislative repercussions. Indeed, in line with proposed national competencies perhaps a full review of the ENs scope of practice is necessary.

The results demonstrate that the AH ENs embarked on skill extension for specific practices. The EN is comprehensively assessing post-operative patients (n=22) and giving management advice to clinical nurses within other specialties. This is an important aspect of surgical nursing and should be embraced by ENs caring for post-operative surgical patients.

The AH ENs are escorting patients to the ward from PACU at least twice weekly (n=51). The frequency of patient escorts is lower than expected, considering the number of operations performed and the fact that the AH EN has been actively encouraged (at this hospital) to escort patients thereby excluding the necessity for clinical nurses to leave wards and reducing collection delays from PACU.

The performance of bladder scans, as the second highest extended skill, is an interesting finding especially when comparisons are made with the number of occasions that the AH EN attended to indwelling catheters (n=21) and bladder irrigation (n=8). While bladder scans are useful for diagnosing urinary retention and some causes of urinary incontinence, they are not a replacement for physical assessment (Nickless et al 2002). Of those patients scanned, only 51% had bladder co-morbidities, possibly indicating that ultrasonography is utilised as the first measure or that clinical nurses are unfamiliar with bladder assessment. Further study into the judicial use of bladder scans is therefore advised.

Medication administration was carried out on six occasions by the AH ENs during the study period. Infrequent medication administration, with a risk of deskilling, was identified by Kimberley at al (2004) to be the result of the time-consuming supervision required by an RN. In this study, infrequent medication administration may be due to the floating nature of the role or simply that medications had previously been administered by ward nurses. The issue of deskilling is a major concern that could impact on patient safety, especially as this role is job shared by two individuals and many activities were performed on less than 10 occasions during the six months.

CONCLUSION

The study indicates that the AH EN, although considered to be working in a supernumerary and support role, is predominantly involved with traditional basic nursing care activities. Evidence of extended skills being performed regularly is limited even if the range of extended skills is diverse, with the potential for deskilling to occur.

Verbal reports by metropolitan and rural ENs indicating that they are frequently expected to carry out tasks beyond their legal jurisdiction in times of staffing need, is a major concern with the potential to affect patient outcomes. It raises further questions as to why the EN is willing to carryout these tasks and whether organisations are indirectly encouraging such practices.

In order for the AH EN to fulfil original role requirements and support surgical ENs and TENs it is necessary that basic nursing tasks be delegated to assistants in nursing. or health care assistants. Encouragement needs to be given toward supporting clinical ENs with skill extension, following appropriate education and accreditation.

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BURNOUT IN NURSING

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ABSTRACT

Objective:

Previous research has suggested that organisational change can contribute to stress-related outcomes for workers. Burnout, one such stress-related outcome, has been conceptualised as a multidimensional construct consisting of emotional exhaustion, depersonalisation and reduced personal accomplishment. Many health care organisations have undergone substantial organisational change over the last decade. The purpose of this study was to assess levels of burnout in nurses and to ascertain if there were individual or work characteristics that were associated with this syndrome.

Design:

Randomised survey methodology.

Setting:

Registered nurses (Division 1) in Victoria who were ANF members.

Subjects:

A random sample of 574 Victorian ANF nurse members.

Main outcome measures:

The assessment of levels of burnout in Victorian ANF nurse members and the identification of individual or work characteristics that may be associated with it.

Results:

Victorian ANF nurse members exhibited lower depersonalisation and higher personal accomplishment compared to medical and overall normative data. Increasing age and fewer working hours were associated with lower levels of emotional exhaustion and depersonalisation. Working overtime was positively associated with emotional exhaustion however further analyses demonstrated that those who worked overtime voluntarily did not differ from workers not working overtime. However feeling pressured/ expected to work overtime was positively associated with emotional exhaustion and depersonalisation.

Conclusion:

Victorian ANF nurse members were not experiencing high levels of burnout. However the study highlighted the need for health care management to recognise the importance of working reasonable hours and in particular, to understand the potential detrimental effect that having to work pressured or unexpected overtime has on staff.

INTRODUCTION

Workplace stress has been well documented as a substantial issue for workers and also for the organisations for whom they work (eg. Dewe et al 2000). Researchers have typically focused on a range of workplace constructs, important among which is burnout. Burnout is commonly conceptualised as a multidimensional syndrome consisting of three components: emotional exhaustion, depersonalisation, and reduced personal accomplishment (Maslach 1993). Emotional exhaustion arises ‘as emotional resources are depleted, workers feel they are no longer able to give of themselves at a psychological level’ (Maslach et al 1996 p.4). Depersonalisation occurs when workers develop ‘negative cynical attitudes and feelings about one’s clients (Maslach et al 1996 p.4). Reduced personal accomplishment ‘refers to the tendency to evaluate oneself negatively, particularly in regard to one’s work with clients’ (Maslach et al 1996 p.4). Previous research has associated both individual (eg. age: Huebner 1994; and gender: van Horn et al 1997) and work characteristics (eg. hours worked: Evers et al 2001) with levels of burnout.

There has been much research on burnout in nurses, presumably because of the intense nature of their contact with patients or clients (Demerouti et al 2000). A review of burnout found that 17% of published studies used nurses as their sample group (Schaufeli and Enzmann 1998). Individual studies conducted in different groups of nurses show variation in levels of burnout. For example, emotional exhaustion appears comparatively high in some studies (eg. Stordeur et al 2001), and low in others (eg. Kilfedder et al 2001).

Other studies have described lower depersonalisation (eg. Kilfedder et al 2001), or lower personal accomplishment in nurses (eg. Hayter 1999). The variations highlight the importance of investigating individual groups to determine their level of burnout because generalisations are not always possible due to differences in the job or workplace. This is particularly so if employees have been through difficult work changes such as organisational reform.

Prior to this study being conducted, hospitals in Australia had undergone substantial organisational change. Reform of hospital environments has previously been found to negatively impact on nurses in particular (Spence-Laschinger et al 2001) as it results in restructuring (Burke and Greenglass 2001; Sochalski et al 1999), mergers (Idel et al 2003), and inadequate workforce numbers (Aiken et al 2001). Similarly, restructuring has been found to be associated with emotional distress (Idel et al 2003), role stress (Swanson and Power 2001), and work-family conflict (Burke and Greenglass 2001).

Consequently, because the changes above have the potential to impact negatively on nurses' experiences they were perceived to be an ideal group for further study in relation to burnout. In addition to investigating individual characteristics (eg. age, years of experience) that are often investigated in burnout research, work characteristics that were relatively specific to the nursing profession at this time (eg. where nursing qualification was gained, that is, hospital training or university based education), and overtime, were also included in the study. It was thought prudent to investigate overtime in this sample since with the reported increased workloads and decreased staff numbers it was likely that overtime may be an issue for nurses.

The two major aims of the study were: (1) to compare levels of burnout in Victorian nurses against normative data, and (2) to assess the associations between selected individual and work characteristics and burnout.

METHOD

Procedure

Questionnaire packages were mailed to 2000 prospective participants who were registered nurses (Division 1) in Victoria by Australian Nursing Federation Victorian Branch staff (VIC ANF). Registered nurses have completed as a minimum a three-year nursing qualification resulting in being able to practice as a registered nurse. There were 574 usable questionnaires available, indicating a response rate of 29.3%.

Questionnaire

Burnout: Burnout was assessed using the Maslach Burnout Inventory (Maslach et al 1996). The inventory contains 22 items that assess the three components of burnout. Each item lists a work-related feeling and respondents indicate how often they felt that way about their job on a 7-point Likert scale. Emotional exhaustion was measured using nine items (eg. 'I feel like I'm at the end of my rope'); depersonalisation was measured using five items (eg. 'I feel I treat some patients as if they were impersonal objects'); and personal accomplishment was measured using eight items (eg. 'I feel I'm positively influencing other people's lives through my work'). Response options for the items were 0 'never' through to 6 'every day'. Responses are added to form a score for each subscale, thus giving each participant three scores for the three components of burnout.

Demographics: The demographics that were recorded included age, years worked as a nurse, and place of primary nursing qualification. Respondents were also asked questions about their main nursing job including the average number of hours worked in the past four weeks and whether they usually worked overtime and if so, whether it was voluntary or pressured/expected; paid or unpaid.

RESULTS

Table 1 displays the means, standard deviations, and ranges for respondent's age, years working as a nurse and hours worked per week. The sample is representative of the nursing profession in terms of age and number of hours worked per week because previous research has reported that the average age of registered nurses in Australia is 43.2 years and they work an average of 33.1 hours per week (AIHW 2006).

Table 1: Means and Standard Deviations for Age, Years Working as a Nurse, Years Working in Current Main Job, Hours Worked Per Week, and Number of Days Taken in Sick Leave in the Past Four Weeks

Variable	(n)	Mean	SD
Age (years)	570	43.94	9.61
Years working as a nurse	571	22.94	10.24
Hours worked per week	545	32.17	10.64

Table 2 displays the frequency distribution for gender, employment status, location of main nursing job, work setting, where primary nursing qualification was obtained and overtime characteristics.

Table 2: Frequency Distributions for Gender, Employment Status, Location of Main Nursing Job, Work Setting, Primary Nursing Qualification and Overtime Characteristics

Variable		Percentage (n)
Gender	Female	94.41 (541)
	Male	5.59 (32)
Employment Status	Full Time	34.27 (196)
	Permanent Part-time	57.34 (328)
	Casual	8.39 (48)
Location of Main Nursing Job	City	29.15 (165)
	Suburban	40.46 (229)
	Rural	30.39 (172)
Work Setting	Public	68.34 (382)
	Private	29.52 (165)
	Both public and private	2.15 (12)
Primary Nursing Qualification	Hospital	70.86 (406)
	College/University	23.21 (133)
	Both	5.93 (34)
Overtime Performed at Work	Yes	68.60 (391)
	No	31.40 (179)
Overtime Voluntary or Pressured Expected	Voluntary	45.90 (123)
	Pressured/Expected	54.10 (145)
Overtime Paid or Unpaid	Paid	38.38 (114)
	Unpaid	61.62 (183)

These figures are similar to those described in previous research (AIHW 2006) showing that 91.4% of registered nurses are female, 88.3% worked in a clinical nursing role; 62.4% in an acute hospital setting; with 66.2% employed in the public sector. Of the respondents to the study 78.2% worked in a clinical nursing role and 61.3% worked in an acute hospital setting.

COMPARATIVE RESULTS

Burnout in the sample of nurses was compared with the available normative data to investigate if any significant differences existed. Table 3 presents the mean and standard deviation for emotional exhaustion, depersonalisation, and personal accomplishment. Additionally, the table contains the normative data for medical workers and for the overall comparative sample obtained from the manual of the Maslach Burnout Inventory (Maslach et al 1996).

The scores for nurses were not significantly different on emotional exhaustion from both normative groups (medical sample: t (570) = 0.73, p>0.05; overall sample: t (570) = 1.78, p>0.05). However their scores were significantly different compared to both normative groups on depersonalisation (medical sample: t (570) = 5.88, p<0.05; overall sample: t (570) = 13.07, p<0.05) and personal accomplishment (medical sample: t (570) = 3.58, p<0.05; overall sample: t (570) = 10.35, p<0.05). Examination of the means indicated that the nurses experienced lower depersonalisation, and higher personal accomplishment (lower burnout overall) than both the normative sample groups.

Table 3: Means and Standard Deviations for Emotional Exhaustion, Depersonalisation, and Personal Accomplishment for ANF Members with Comparative Data from Normative Samples

Variables	(n)	Mean	SD	t-test
Emotional exhaustion ANF members	571	21.84	11.40	
Normative (medical)	1104	22.19	9.53	t(570) = 0.73 p>0.05
Overall normative sample	11067	20.99	10.75	t(570) = 1.78 p>0.05
Depersonalisation ANF members	571	5.81	5.34	
Normative (medical)	1104	7.12	5.22	t(570) = 5.88 p<0.05
Overall normative sample	11067	8.73	5.89	t(570) = 13.07 p<0.05
Personal accomplishment ANF members	571	37.56	6.88	
Normative (medical)	1104	36.53	7.34	t(570) = 3.58 p<0.05
Overall normative sample	11067	34.58	7.11	t(570) = 10.35 p<0.05

Individual and work characteristics and burnout

Pearson correlations were used to investigate the association between emotional exhaustion, depersonalisation, and personal accomplishment with individual and work characteristics (see table 4). Age was negatively associated with emotional exhaustion (r = -0.08, p<0.05) and depersonalisation (r = -0.23, p<0.05) indicating that as nurses' age increased their levels of these two burnout components decreased. Similarly, nurses' experience was negatively associated with depersonalisation (r = -0.20, p<0.05). The number of hours worked as a nurse was positively associated with emotional exhaustion (r = 0.24, p<0.05) and depersonalization (r = 0.10, p<0.05). Therefore as the number of work hours increased, nurses were more likely to experience emotional exhaustion and depersonalisation.

Table 4: Summary of Correlations between Age, Years of Work, Hours Worked per Week, Burnout (Emotional Exhaustion, Depersonalisation, and Personal Accomplishment), and Overtime

Variable	Emotional exhaustion EE	Depersonalisation DEP	Personal accomplishment PA
DEP	0.56**		
PA	-0.29**	-0.38**	
Age	-0.08**	-0.23**	0.04
Years	-0.07	-0.20**	0.04
Hours	0.24**	0.10*	0.08
Hosp/Uni	0.09*	0.16**	-0.01
O/T	0.21**	-0.01	0.08
O/T voluntary	0.41**	0.22**	-0.04
O/T paid	0.13*	-0.03	0.04

Note: * $p<0.05$, ** $p<0.01$

Key: EE = Emotional exhaustion; DEP = Depersonalisation; PA = Personal accomplishment; Years = years worked as a nurse; Hours = hours worked as a nurse per week; Hosp/Uni = where primary nursing qualification was gained (code: 0 = Hospital, 1 = University); O/T = Perform O/T while at work in main nursing job (code: 0 = No, 1 = Yes); O/T Voluntary = if the usual O/T was voluntary or pressured/expected (code: 0 = Voluntary, 1 = Pressured/Expected); O/T Paid = if the usual overtime was paid or unpaid (code: 0 = Paid, 1 = Unpaid).

Nurses who had gained their primary nursing qualification at a university or college tended to have higher emotional exhaustion ($r = 0.09$, $p<0.05$) and depersonalisation ($r = 0.16$, $p<0.05$) than hospital trained nurses. Working overtime was associated with higher emotional exhaustion ($r = 0.21$, $p<0.05$) which was partially explained because those nurses who worked overtime also worked more hours (t (543) = 4.68, $p<0.05$; overtime, $M = 33.55$ hours, $SD = 10.50$; no overtime, $M = 29.11$, $SD = 9.92$). A two-step hierarchical multiple regression using emotional exhaustion as the dependent variable was used to analyse whether the effect of working overtime occurred over and above the effect of hours worked. The regression was significant (F (2,539) = 25.18, $p<0.05$; adjusted R2 = 0.08) and demonstrated that working overtime was significantly associated with higher emotional exhaustion (, = 0.18, $p<0.05$) after allowing for hours of nursing work in step one of the hierarchical multiple regression. Being pressured or expected to work overtime (rather than voluntarily) was associated with higher emotional exhaustion ($r = 0.41$, $p<0.05$) and depersonalisation ($r = 0.22$, $p<0.05$); and working unpaid overtime was associated with higher emotional exhaustion ($r = 0.13$, $p<0.05$).

DISCUSSION

The first aim of the study was to compare the burnout levels of Victorian nurses to normative data in order to assess whether they differed significantly. The second aim of the study was to analyse the relationship between individual and work characteristics and burnout.

Comparative results

The current sample of nurses had similar levels of emotional exhaustion to the overall normative and medical figures (Maslach et al 1996). However respondents had significantly lower depersonalisation, and higher personal accomplishment than both the normative and medical samples. Additionally, 89.3% of respondents reported being satisfied (3.3% dissatisfied) with choosing nursing as a career choice. This result would seem an extremely positive one given that many of the respondents in the current study would have been exposed to some type of organisational change prior to the study being conducted. Perhaps, the lower rate of depersonalisation and higher personal accomplishment relates to the low average number of hours worked by the nurses, many of whom worked part-time, and as such are likely to lead more balanced lives than full-time employees. Unfortunately, the employment status of the normative samples is not available. Another possible reason for the differences is that the normative figures are based on mainly American data and therefore there is the possibility of a cultural effect.

Individual and work characteristics and burnout

Age and the number of years in practice were strongly positively associated ($r = 0.89$, $p<0.01$) indicating that older nurses are also likely to be more experienced. Both age and years working as a nurse were significantly negatively associated with depersonalisation while only age was significantly associated with emotional exhaustion. Despite the non-significant result between years of nursing and emotional exhaustion, the result was bordering significance and given the high correlation between age and years of working as a nurse, they will be considered together. This result indicated that older more experienced nurses experienced lower burnout on these two components; a finding that is consistent with previous research reporting that younger age is associated with higher levels of burnout (Schaufeli and Enzmann 1998).

The significant association between increasing age and lower levels of emotional exhaustion and depersonalisation has been consistently reported (Schaufeli and Enzmann 1998) however the strength of association with emotional exhaustion was weaker than previously reported in some studies (eg. Huebner 1994). The most likely explanation for higher levels of emotional exhaustion and depersonalisation in younger workers is that professional education can not always equip new graduates with the necessary skills to adequately deal with every problem situation in the workplace. Consequently, new graduates are continually experiencing stress as they struggle to find the necessary resources to deal with every new workplace challenge.

The gulf between skills provided by training and those required in reality is particularly evident with interpersonal skills (Pines and Aronson 1988) which are so important in order to effectively communicate with colleagues and clients. This uncertainty with some work characteristics is likely to influence the level of stress experienced by nurses (Buunk and Schaufeli 1993). Less experienced nurses are likely to experience emotional exhaustion due to the emotional demands of new and unexpected work situations. Depersonalisation occurs in order to distance themselves from this emotionally draining work (Leiter 1993). Older nurses are likely to have previously experienced most work scenarios thereby understanding and managing problematic or ambiguous work situations with greater confidence and certainty. The influence of age/years of experience also partially explains why being a hospital trained nurse was significantly associated with lower emotional exhaustion and depersonalisation (compared to their university/college trained colleagues). While it would be tempting to suggest that university/college nursing training is an influencing factor in this result, it is more likely that because hospital nursing education was phased out over ten years ago hospital nurses were an older cohort than college/university trained nurses. A t-test confirmed this assumption (t (533) = 21.01, $p<0.05$) with hospital trained nurses being significantly older (M = 47.70, SD = 7.24; university/college, M = 32.54, SD = 6.99).

The number of hours worked per week as a nurse was significantly associated with emotional exhaustion and depersonalisation indicating that working longer hours was associated with higher levels of these two burnout components. Previous researchers have suggested that the number of hours worked as being weakly associated with emotional exhaustion (Evers et al 2001), findings that are consistent with those of the current study. The average number of hours worked for nurses in this study was 32.17 hours (SD = 10.64) indicating a lower average than a typical full-time week and may partially explain why the hours worked per week was a weak contributor to emotional exhaustion and depersonalisation. There is some indication that the association between the number of hours worked and adverse consequences is non-linear with only excessive work hours resulting in problems for workers (Sparks et al 1997).

Overall, working overtime was associated with higher levels of emotional exhaustion however the largest contributor to this effect were those workers who were pressured or expected to do the overtime. Examination of the means demonstrates that those workers who reported voluntarily working overtime (M = 18.59, SD = 10.62) did not experience higher emotional exhaustion than those workers who did not work any overtime (M = 18.25, SD = 10.60). This result suggests that it is not working overtime per se that is the problem, the issue is when nurses lose control over their work patterns and they feel pressured to add the extra work demands onto their existing load.

Conversely, for some nurses working overtime may be a positive experience because of extra income. When a worker has voluntarily worked overtime it would also be likely that their home/family commitments would be organised in advance, thereby removing potential home/work conflict. The reality of the hospital system often means that nurses will be unexpectedly required to work overtime occasionally (and may indeed want to do this). The current result highlights that there may be a cost for this extra work commitment if workers feel pressured to engage in overtime work that is unexplained and unexpected. This is not surprising given that much of this type of work may be unexpected and therefore very disruptive to home/family life. Attempting to juggle life and family commitments with regular work patterns is likely to be difficult enough, let alone when pressured or unexpected overtime is required to be worked, thus adding to the existing worker demands.

A limitation of the current study was the low response rate which potentially limits the generalisability of the findings. Furthermore, it is possible that this study was subject to what Schaufeli and Enzman (1998) call the ‘healthy worker effect’ (p.74) because more healthy workers are investigated because those who are extremely affected may not be working. This situation is likely to result in an underestimation of the incidence of burnout (Schaufeli and Enzmann 1998).

CONCLUSION

Positively, the current study demonstrates that Victorian nurses are not experiencing high levels of burnout and the vast majority was satisfied with their career choice. The study has also highlighted the importance of working manageable hours and that increasing years of nursing experience is likely to be beneficial for the worker. Additionally, working pressured or unexpected overtime was associated with increased levels of emotional exhaustion and depersonalisation indicating the need for management to be mindful of this situation occurring, particularly if foreshadowed nurse shortages continue.

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ADOLESCENT APPROPRIATE CARE IN AN ADULT HOSPITAL: THE USE OF A YOUTH CARE PLAN

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Key words: Adolescent, care plan, adult hospital, communication

ABSTRACT

Objective:

This paper explores the development of a specific youth care plan which provides a framework for adolescent appropriate care in an adult acute care facility.

Setting:

The Sydney South Western Area Health Service (SSWAHS) Youth Consultancy, Royal Prince Alfred Hospital (RPAH), Camperdown, Sydney, Australia.

Subjects:

Young people aged 12- 24 years who were admitted to the acute hospital setting at RPAH. Approximately 2500 young people are admitted as in-patients to RPAH each year.

Primary Argument:

Adolescents are a unique population with different developmental and health care needs. Adult acute care facilities are often ill-equipped to deal with the complex developmental needs of young people and need guidance and education to provide appropriate care for this population. Nurses play a pivotal role in caring for hospitalised young people. A developmentally relevant youth care plan may be an appropriate and effective tool to facilitate best-practice nursing.

Conclusions:

The Youth Care Plan was developed to provide a framework for developmentally appropriate assessment and care for young patients admitted to RPAH. This care plan also provides a mechanism for referrals to the Youth Consultancy team, which provides continuous education, consultation and liaison for staff related to both the Youth Care Plan and general adolescent health. The Youth Care Plan is regularly audited and has been trialled as a registered Continuous Quality Improvement project of RPAH.

BACKGROUND

Young people have significantly different health care needs to those of children and adults. Their needs are diverse and are affected by the physical, emotional, psychological and socio-cultural stages of adolescence. 'Young people', 'adolescence' and 'youth' are often used interchangeably, dependent on the culture and the context (Sawyer and Bowes 1999). The World Health Organisation defines adolescence as the second decade of life, from 10-20 years, and defines a category of 'youth' as 10-25 years (World Health Organisation 1993).

There are numerous definitions of adolescence and this life stage can generally be defined as the developmental period between childhood and adulthood which encompasses a time of rapid biological change and cognitive and psychosocial maturation (Sawyer and Bowes 1999). Based on the Australian Government's definition of young people this care plan is for 12-24 year olds (Australian Institute of Health and Welfare 2006).

Young people in the 12-24 years age group make up 18% of the total Australian population and whilst they are often considered to be a healthy population, they account for over half a million hospital admissions annually and nearly 10% of all hospital admissions (Australian Institute of Health and Welfare 2004). In the adult tertiary care setting of RPAH approximately 2500 young people are admitted each year (around 6% of total admissions).

Adolescence is a period in life where health behaviours are formed and many health problems begin (New South Wales Health 1999). There is no other stage in life where there is such a rapid change in physical, psychosocial and social behaviours. Such changes can produce specific disease patterns, unusual symptom presentation, and above all, unique communication and health care management challenges (Michaud et al 2004). The importance of addressing adolescents' developmentally specific issues in the context of adult health care cannot be underestimated (New South Wales Health 1999; Association for Welfare of Child Health 2005; UK NHS 2000).

These specific issues include relationships with family and friends, education, independence and autonomy, leisure and social needs, growth and development, sexual health, and drug health (Rosen 2003). In addition there may be issues relevant to the illness process and its treatment, which include consent, communication and therapy adherence (Britto et al 2004; Beresford and Sloper 2003; Olsson et al 2000). It is likely in an adult hospital setting that staff may not have the training or the resources to address these adolescent needs. Furthermore, these needs may impact on an adolescent's health and wellbeing during hospitalisation (Association for Welfare of Child Health 2005). The pressure for adult hospitals to provide care in a developmentally appropriate manner is likely to increase as the number of young people with chronic illness who survive into adulthood increases (Patton et al 2002; McDonagh 2000).

The transition from paediatric to adult care in chronic illness usually occurs in an ambulatory setting. However for some young people with chronic illness, there will also be an in-patient transition, with a move from the family-focussed and highly supportive paediatric setting to an adult hospital, where the dynamic shifts to the individual therapeutic approach and a focus on longer term health outcomes (Bennett et al 2005; Viner 1999; Rosen 1995).

The Youth Consultancy at RPAH

The Youth Consultancy at RPAH is a unique adolescent health service model in Australia. The service has no adolescent ward, and has responsibilities at an area health service level. Since the 1950s it has been acknowledged, both in Australia and internationally, that there is a lack of facilities and support for hospitalised adolescent patients (Watson 2004; Rosen 2003; Stuart-Clark 1953). There is also little evidence of adolescent appropriate care in acute adult facilities (Lam et al 2005). In response to this dearth of evidence, the Youth Consultancy has collated evidence from clinical experience, a pilot study on young people with a chronic illness, surveys of hospitalised young people and surveys of nursing staff, all of which suggest a need for appropriate assessment and planned care for young people who access the adult acute care setting.

The Youth Consultancy's clinical evidence tell us that other than specific medical referrals for adolescent growth and development concerns, 87% of referrals to the service come from nursing staff. Reasons for referral include issues such as: first adult hospital admission from paediatric care, lack of family and peer support due to rural, interstate or international status, long admission, new diagnosis, boredom, unacceptable ward behaviour and general adolescent support.

In a survey of nursing staff at RPAH in 2005, 70% acknowledged that the health care needs of young people differ from those of the general population. In an unpublished pilot study on young people with chronic illness the experience of transition from a paediatric to an adult hospital was investigated. Five subjects, mean age 19 years, were interviewed using a recorded interview technique during their first admission to RPAH. All the subjects had experienced a paediatric hospital admission within the previous twelve months.

The thematic results identified issues which included: the shock of being co-located with older patients, lack of prior orientation to adult services which are culturally different to paediatric services, the impact of family centred versus patient centred in the adult facility, as well as the impact of repetition of medical history required by the new care team(s) and setting (Steinbeck and Brodie 2006). While these issues might apply to adults, the rapid developmental changes and strong interdependence on their peer group make hospitalisation a particularly emotive experience for the adolescent.

Finally a medical student survey of young people admitted to the hospital was conducted as part of a placement in adolescent medicine. Twenty three subjects were interviewed (F=12) with a mean age of 19.6yrs (range 12-23 years). Eleven had cystic fibrosis, eight had other chronic illnesses and four were acute admissions. Eighteen had experienced previous admissions to a paediatric facility. The aspects of life identified as being affected by hospitalisation were social life and interaction with friends and peers (19), school, university and work (18), family (6), freedom (2), separation from child (1), and a reminder of mortality (1). Only subjects with cystic fibrosis identified hospitalisation as a positive experience, due to enforced rest, feelings of getting better and being taken care of.

These combined findings suggest that hospitalisation has a major effect on young people. This effect may not be directly related to their immediate medical or surgical needs but may well impact on care, and implies that nurses need to better understand a young person's world (Rosenbaum and Carty 1996). For example, normal adolescent behaviour may at times be misinterpreted as inappropriate or unacceptable. The perception by young people that nursing staff are busy and disinterested, their boredom and isolation from peers, and the importance to the young person of holding onto the normal aspects of their life while in hospital can all impact on the experience of hospitalisation (Hutton 2004).

A key role of the Youth Consultancy is the provision of staff education and training as a means of improving the developmental appropriateness of nursing care at RPAH and the wider area health service. With limited resources it is not possible to individually assess and meet the needs of all hospitalised young people. The Youth Care Plan is therefore one tool to document physical, developmental and psychosocial assessment and care planning during admission to hospital. The care plan has the capacity to enhance communication between young people and nursing staff by providing a lead in to discussion of adolescent health and development issues, as well as informing referral to the Youth Consultancy.

DEVELOPMENT OF THE YOUTH CARE PLAN

Searching the literature

An extensive literature review using CINHAL, Embase, and Medline, over the past 20 years, was conducted by the authors and revealed no published specific nursing care plans for young people in either adult or paediatric settings. The available literature did suggest that effective communication with health professionals is a major concern for young people (McPherson 2005; Beresford and Sloper 2003; Kyngäs and Rissanen 2001; Litt and Cuskey 1984), and the outlined care plan clearly addresses this concern. Colleagues within adolescent health were also consulted and internet searches were performed throughout the literature review phase.

Nursing care plans are an essential tool in the delivery of nursing care, as they are designed to provide a framework for planning, provision and evaluation of nursing care (Björvell et al 2000; Mason 1999). Nurses have long been acknowledged as key collectors, generators and users of patient information. The delivery of good nursing care has always been associated with the quality of information available to the nurse as detailed in a recent Cochrane review (Currell and Urquhart 2006). In Australia, nursing care plans are the primary means of documenting, communicating and structuring patient care (O'Connell et al 2000).

The most appropriate time to obtain initial and descriptive information from a patient is at the time of admission. These admissions provide an opportunity for health risk screening and the care plan is seen as a fundamental tool in providing direction and action for patient care based on a holistic assessment of the patient (Yeo et al 2005; Mason 1999). Systematic adolescent health and development screening at the time of admission has been shown to improve adolescents' psychosocial health and treatment adherence (Rosina et al 2003).

The Youth Care Plan

The Youth Care Plan was developed to provide a developmentally appropriate tool for the assessment of young persons admitted to RPAH. When the process began in 2002 only a general care plan and a paediatric care plan (for a small paediatric short stay ward) were used throughout the hospital. Nursing staff surveyed at RPAH acknowledged that the use of the paediatric and general care plans often neglected relevant information from the young person.

The Youth Care Plan was developed in two stages. The first version of the Youth Care Plan was initially trialled, evaluated and implemented in the wards in 2002 in conjunction with in-service education in its use. In order to comply with the New South Wales Department of Health's Effective Discharge Planning Framework Policy (New South Wales Health 2003) a second version was developed in 2004. The development process included regular review of the document by, and discussion with, the Youth Consultancy team, the Director of Nursing and Midwifery Services, the Operational Nurse Manager, the Clinical Manager for Women's and Children's Health, Nurse Unit Managers in the wards where young people were most often admitted, the Clinical Nurse Consultant group, adolescent nursing colleagues from other institutions, the Quality Improvement Unit, Medical Record Department and the Area Health Service Forms Committee. The design and visual layout of the Youth Care Plan complements the general patient care plan, providing a consistent format for nursing staff.

Structure

The structure of the Youth Care Plan was based on the HEADSS assessment, a well accepted instrument for adolescent psychosocial assessment. The acronym HEADSS stands for Home environment, Education/employment, peer-related Activities, Drugs, Sexuality, Suicide/depression (Goldenring and Cohen 1988), and has recently been expanded to HEEADSSS, incorporating Eating and Safety from injury and violence into the existing framework (Goldenring and Rosen 2004). The development of the Youth Care Plan aimed to combine a modified HEEADSS assessment with the traditional care plan structure in order to improve the collection of information, to enhance communication with patients and within the multidisciplinary treating team, and to minimise admission stress for the young person and the admitting nurse.

The type and range of questions employed by the HEEADSSS assessment can be adapted considerably in order to address the diverse experiences of young people of different ages (Carr-Gregg et al 2003). However the space and time limits of the care plan demanded that questions were selected which would address issues identified by the research data as well as those directly relevant to health. Eight key areas were incorporated: health and development, home environment, education, employment, leisure and activities, sleep and rest, substance use, relationships and sexual health. A short list of questions under each key heading provides nurses with a brief psychosocial profile of the young person. Effective, non-confronting communication is paramount when meeting a young person for the first time, and the type and flow of questions in the Youth Care Plan allows the nurse to develop the rapport required to make a developmentally appropriate assessment.

Experience with the Youth Care Plan

The Youth Care Plan incorporates a mechanism for referral to the Youth Consultancy at the time of admission. To guide and facilitate referral to the Youth Consultancy, the Youth Care Plan contains both contact details for Youth Consultancy clinicians and a tick-box system listing some criteria for referral to the Youth Consultancy. Referral criteria include chronic illness, extended length of stay, therapy non-adherence, and issues with peer support, energy conservation and stress management.

As evidenced by Sawyer et al (2003) and highlighted by the results of our pilot study, young people often feel frustration when they have to repeatedly explain their needs and medical history. Such feelings can be exacerbated in hospital by nursing shift changes and the multiple medical and allied health teams consulting with the young person. A comprehensive admission assessment, which is available to the multidisciplinary team, can eliminate unnecessarily repetitive assessment of the patient, enhancing workforce efficiency and quality of care, as well as communication and team involvement (Hensley 2002), and ultimately reducing stress on the patient. The Youth Care Plan allows referral to services other than the Youth Consultancy, such as Social Work, Discharge Liaison, Physiotherapy, and Dietetics, and in so doing facilitates both a collaborative approach to care and an effective discharge for the young person. A coordinated approach by health professionals with an interest in adolescent health is essential, especially when there is no separate ward for adolescents (Macfarlane and Blum 2001) as is the case at RPAH.

The Youth Consultancy provides a number of education resources to staff, including ward in-service education, online seminars, workshops, and policy and procedural guidance for incorporating adolescent health and development priorities into the adult health care system. Education and training in using the Youth Care Plan aims not just to encourage compliance with adoption of the form, but also to promote an understanding of the unique needs of adolescents in an adult hospital. The Youth Care Plan does not replace the Youth Consultancy's daily clinical work in response to the census list of all hospitalised young people, but rather maximises outreach and enhances resource efficiency.

The Youth Care Plan is also an integral part of the patient's medical history and complies with legal requirements of documentation. Since the 2004 introduction of the Youth Care Plan referral rate to the Youth Consultancy has increased by 60%. The goal is to achieve 95% utilisation of the Youth Care Plan by 2007.

DISCUSSION

In most tertiary adult hospitals, adolescents are mainstreamed into adult wards according to clinical diagnosis and treatment needs. Adolescence is a discrete developmental stage, with specific health care needs which must be addressed effectively by health care providers. The Youth Care Plan is an innovative tool enabling health care providers to improve the hospitalisation experience of young people by promoting communication between young people and the multidisciplinary team. It also aims to improve the adolescent nursing skills of staff through education and capacity building.

Ultimately, the Youth Care Plan aims to enhance the collection of clinical information to optimise care, identify areas of developmental concern and achieve a partnership between the young person and the admitting team. The observation that the referral rate to the Youth Consultancy has increased since the introduction of the Youth Care Plan suggests that nursing staff are recognising specific developmental issues at the time of admission for which they seek expert help.

The use and efficacy of the Youth Care Plan will be evaluated as a quality improvement project. The argument presented in this paper suggests further research into the use of the Youth Care Plan and young patient outcomes will be beneficial. As both the Youth Care Plan and research in this field are novel, such research will have important implications for nursing practice with regard to treatment models of care for the adolescent in any adult hospital. Such research is expected not only to support the use of the Youth Care Plan but also provide a national evidence based framework for all hospitals who admit adolescents.

In Summary

The authors of this paper have sought research funding to audit and evaluate the Youth Care Plan. This research will assess the congruency of the information obtained using the Youth Care Plan and by a formal HEADSS assessment. In addition consumer feedback, both with nursing staff and the young patients is essential, and pre and post questionnaires are in place.

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THE USE OF THE TERM VULNERABILITY IN ACUTE CARE: WHY DOES IT DIFFER AND WHAT DOES IT MEAN?

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ABSTRACT

Objective:

Throughout health care literature, vulnerability is widely accepted as a potential issue for all patients yet the consensus on the meaning of and practical strategies to reduce or manage these 'harmful agents' in the clinical context are rarely offered. Three main themes emerge from the related literature which can be further refined into general terms of; social vulnerability - a person's basic statistical data in relation to their potential for illness; psychological vulnerability - the actual or potential harm to the identity of self and/or other emotional effects such as anxiety or stress caused by the ailment or treatment; and physical vulnerability - which refers to the actual physiological state where an individual is susceptible to further morbidity or mortality.

Setting:

Acute care facilities.

Primary argument:

Although there is acknowledgment within the literature that individuals will experience some form of vulnerability when hospitalised, the complexity of what defines vulnerability for individuals causes further problems for patients and health professionals alike.

Conclusions:

This paper attempts to define vulnerability within the context of Western health care systems and raises the following issues: all states of vulnerability are accurate and appropriate in the context of the study or incidence alluded to, but further discussion and research is required to achieve a consensus to when, how, why and who is vulnerable. It is this recognition of the potentially differing classifications of vulnerability and the particular contexts that can be used that may assist nurses and other health care professionals with, not only problems associated with a patient's hospitalisation, but in the implementation of appropriate strategies to individual patient's cases.

INTRODUCTION

The increasing technical complexity of nursing care has the potential to exacerbate the Cartesian separation of the body from the individual. This in turn can lead health professionals to treat the altered health state as an entity in itself (Knaus et al 1991) rather than the person as a whole. As health care emphases are directed toward measurable medical and scientific levels of the patient's body, health professionals will consequently fail to comprehend how their patients who are faced with these changes adapt and reconcile non measurable or non fixable issues that affect their health status.

Patients admitted with acute presentations may not only become affected at a physical and psychological level but also a social level. These aspects associated with the preadmission, inter-admission or post admission individual have been described as patient vulnerability.

AIM

Within past and current health care literature, vulnerability is widely accepted as a potential complicating agent for all patients (Shi 2001; Malone 2000; Irurita 1999; Rogers 1997; Broyles 1999). Vulnerability (patient) has been defined as being susceptible to harmful agents (Malone 2000). This can be furthered defined in terms of actual or potentially vulnerability. Actual or potentially vulnerability can be defined as those known circumstances which will cause an individual to be susceptible. Whereas potential vulnerability are those circumstance that may cause an individual to be susceptible.

Although many have written about patient vulnerability few authors have addressed the varying meanings of vulnerability nor identified practical strategies to reduce or manage its associated ‘harmful agents’ within the clinical context. As a result there is no general consensus as to what vulnerability actually means for an individual. Despite this general vagueness as to exactly what vulnerability entails, the argument presented in this paper is that there are three main themes of vulnerability that emerge from the related literature. They are: social vulnerability, psychological vulnerability and physical vulnerability. Social vulnerability (be it demographic, economic or cultural) refers to a person’s basic statistical data in relation to their potential for illness (Shi 2001; Steptoe and Marmot 2003; Rogers 1997; Flaskerud and Winslow 1998; Aday 1994). Psychological vulnerability relates to the actual or potential harm to the identity of self and/or other emotional effects such as anxiety or stress caused by the ailment or treatment (Malone 2000; Williams 1998; Irurita 1996; Zigmond 1983). Physical vulnerability which can either refer to the actual physiological state where an individual is susceptible to further morbidity or mortality (Turkel 2001; Malone 2000; Williams 1998; Irurita 1996) or can also overlap with social and psychological sense of vulnerabilities.

Although there is acknowledgment within the literature that individuals will experience some form of vulnerability when hospitalised, the complexity of this experience for each individual will vary and may be misinterpreted causing further problems for the patient. As there is little guidance for health professionals to identify key risk factors to better support patients through these responses, a consequence of this is that health professionals require further assistance to facilitate an appropriate strategy for preventative, ongoing or discharge care to these complex situations.

Personal Capacity

One of the factors that can affect a patient’s ability to prevent vulnerability is personal capacity. The definition of capacity refers to the ability to produce and perform (Moore 1997). Personal capacity best describes the perceived innate ability of all individuals within society to grow, produce, perform, and achieve autonomy and their maximum potential. Maximum potential can infer an individual’s academic, physical, mental ability as well as their potential to obtain and sustain their role within their family, occupation or within society in general. As a result, an increase in personal capacity would potentially see a decrease in vulnerability. Actions taken to build personal capacity can decrease a patient’s feelings of actual physical, psychological and social vulnerability.

The term ‘personal capacity’ would predominantly be used when referring to social vulnerability due to its obvious social overtones, such as socioeconomic status or level of educational attainment. The relationship between the higher level obtained of those examples would lead to an increased personal capacity of the individual through an improved ability to make not only informed choices but be able to access appropriate care in a timely manner. A lower level of both examples could potentially lead to avoiding or further complicating health related conditions.

Personal capacity could also be used when discussing psychological or physical vulnerability. Health professionals, in particular nurses, can decrease psychological or physical vulnerability and increase personal capacity through strategies such as advocacy (to uphold the patients best interests), presencing (being there or being with the patient), education or providing individual safety measures such as bed rails or drawn curtains within the acute hospital (Snyder, Brandt, and Tseng 2000). These are measures again that nurses may subconsciously perform to decrease patient vulnerability.

Social vulnerability: Indicators/predictors

Social vulnerability is the most prominent form of vulnerability found in healthcare literature, as it is the easiest to define and theorise. It is best described as the universal notion of risk, implying that everyone is potentially vulnerable to developing health problems (Aday 1994). Statistical data or individual variables are used to predict a person’s capacity to resist a vulnerable state which may in turn increase or decrease the incidence of ill health (Steptoe and Marmot 2003). This data includes demographic, economic or cultural variables (such as sex, age, martial status, earnings, educational attainment, religion and racial heritage). In relation to an individual’s personal capacity this can be diminished or increased due to many variables relative to an individual’s circumstances. These variables define (ethnicity or culture), enable or disable (occupation, educational attainment or lack thereof); be actual (gender); or inevitable (age) to an individual (Shi 2001; Steptoe and Marmot 2003; Flaskerud and Winslow 1998; Rogers 1997; Aday 1994; Copp 1986).

Models of vulnerability have been developed using the correlation between these various variables. Theories developed from this data on how, why, when and who become vulnerable are described in a prescriptive equation for example ‘V1+V2-V3= X (amount of vulnerability)’. Two prominent examples of these equations are Copp’s Continuum of Vulnerability (Copp 1986) and Shi’s view of vulnerability as a multidimensional construct (Shi 2001). Both refer to vulnerability as a predisposition to becoming ill and both identify not entirely dissimilar key variables associated to the individual’s social data. These are then weighted into different categories depending on how certain circumstances are viewed in relation to prevalence of illness.

For example: statistical variables that may increase vulnerability and decrease capacity would be age, gender, and income or minority status. The very young or the elderly are inherently vulnerable due to their physical and mental immaturity (*development*) or maturity (*decay*). Both are particularly susceptible to physical and psychological harm due to their inability to act appropriately on their own behalf (Flaskerud 1998; Irurita 1999; Rogers 1997). Usually those identified as having multiple risk factors (such as the impoverished elderly person who is from a non-English speaking background) could be seen as being from a high-risk or doubly vulnerable population (Moore 1999). These individuals have more than one statistically proven variable which may affect their health (Moore 1999; Rogers 1997; Irurita 1996).

Various gender related statistical circumstances like the incidence of stress, domestic violence (Rogers 1997) can also effect how, when, why and who become socially vulnerable. Examples of these are also specific disease processes such as breast cancer for women or stress, antisocial behavior or specific disease processes such as prostate cancer for men (Rogers 1997).

Other vulnerable groups that can be identified through this data are those from minority groups (Indigenous, homosexual, non-English speaking background migrants etc) as they statistically have a higher incidence of disease and trauma than the general population (Vezeau et al. 1998; Aday 1994). These variables are weighted in terms of the individual's vulnerability and can be compounding or negating to the individual in terms of vulnerability/ capacity depending on which variables are appropriate to the individual and thus placing the individual somewhere within the particular model addressed (Shi 2001; Copp 1986).

Examples of variables that decrease vulnerability and increase personal capacity are those such as wealth, education or occupation. These variables are seen to increase personal capacity to prevent vulnerability because of the perceived notion that these individuals would have better knowledge of, and access to, health care through virtue of their circumstance (Flaskerud and Winslow 1998). This recognition of certain predisposing variables makes social vulnerability predominantly a pre-emptive notion of actual or potential effects, which may or may not impede an individual's health status (and thus capacity to prevent vulnerability). It is particularly relevant when addressing issues related to public health or understanding an individual's personal background in context of their actual or potential for illness. These factors may help target community health care initiatives such as specific strategies for care and education as well as other tangible resources within hospitals or clinics.

Physical vulnerability: Indicator/predictors

Physical vulnerability refers to a person's impaired resistance to further harm caused by a weakened state of disease, ailments or trauma. This actual or potential physical susceptibility could lead to further morbidity or even mortality if unrecognised. Physical vulnerability (be it actual or potential) is the underpinning for all the theories/factors of what it is to be vulnerable within the acute health care system. The very nature of being ill requires the individual to relinquish responsibility for themselves to another, in order to receive the appropriate treatment. Financial or intellectual (IQ or education) ability can limit peoples' ability to care for themselves as well and their families. In this weakened state, it is well documented that other opportunistic diseases can affect and infect the individual further decreasing their capacity to recover (Rogers 1997). Physical vulnerability could be seen as the manifestation of social and psychological vulnerability. Social vulnerability may be a predictor for illness (Ferrer and Palmer 2004; Steptoe and Marmot 2003) or the exacerbation or poor prognosis of physical illness may result in a psychological condition such as depression (Kaye et al 2000).

An example of how this could be quantified is through the use of the Acute Physiology and Chronic Health Evaluation (APACHE III) score (Knaus et al 1991). The APACHE III risk estimate equations use the admission diagnosis, the source of admission, and the APACHE III score weighted according to coefficients that are not in the public domain. In essence the APACHE score measures the severity of illness score calculated from the patient's age, the presence of co-morbid conditions, and the physiologic and laboratory investigations in the first 24 hours after admission. This is used to accurately predict hospital mortality risk or physical vulnerability for critically ill hospitalised adults, especially those in intensive care.

Patients during hospitalisation are potentially at risk of physical vulnerability and thus a decreased personal capacity which will further complicate their present co-morbidities with risks of opportunistic infections (Canale 2005). Prevention of further complications is a form of patient advocacy and should be paramount when treating any patient. In this vulnerable state the individual is already susceptible to harm and thus the potential for further damage also increases as the body tries to cope with its dis-integrity.

Psychological vulnerability: Indicators/predictors

Psychological vulnerability is probably the hardest form of vulnerability to predict in terms of who will be susceptible and how its effects will be felt. Hospitalisation can cause psychological effects, such as loss of role or identity or a perceived lack of autonomy (Lockhart, Ray and Berard 2001; Dennis 1990). Individuals develop their own self construction through social practices and adopt traits of particular social groups they associate with (be it social networks, cultural practices or the family unit) and as such their own identity can never be wholly secure from the external social world we participate in (Dagnan, Trower, and Gilbert 2002).

If individuals are removed from their environment to one that is alien, such as a hospital where these individuals could perceive to be subordinated and controlled by others, then self construction fails and feelings of vulnerability prevail (Irurita 1996). As this deconstruction of a person's known self to one that is unfamiliar, doubts and uncertainties arise and can damage a person's capacity to cope with foreign situations. This form of vulnerability is most prevalent in literature addressing the psychological effects of hospitalisation on an individual (Mayou and Farmer 2002).

All types of health care avert some form of control over those entrusted to their care as a means of caring for individuals with altered health states. This control can take a physical form through such methods as manual restraint in extreme circumstances but is mostly psychological control which can be felt through regimented hospital routines and protocols. Psychological control creates a potentially negative relationship between the representatives of the health care provider (for example nurses, doctors, physiotherapists) and the individual (Dagnan, Trower and Gilbert 2002). The individual can feel dominated and subordinated which can lead to alienation, marginalisation, internalised oppression (Canales 2000) and thus result in feelings of harm (and consequently vulnerability).

Means of domination include the removal of personal care. Under normal circumstances a healthy adult would feed, dress, and clean themselves at their own pace and time, but when placed into an abnormal circumstance such as hospitalisation for trauma, disease or treatment, these processes become (to some extent) regulated for them. As a means of care, the removal of choice of the individual ensures the processes of the system run smoothly but this lack of choice also de-individualises the person to a bed number or disease classification. An example of this would be to refer to a person as: 'the patient in bed 12 with heart failure will be going for the x-ray at 12pm'. This common scenario would most likely take place on a day to day basis with the patient having little choice and no name. Not only does this lack of recognition of the individual and their uniqueness cause vulnerability by the removal of the autonomy and individuality of the patient, but also they are in a situation in which they are reliant on the help of others (Lawler 1991).

Loss of self can be felt by all who are using the health care system due to the reliance on help from others and the potential for harm if this help is refused or withheld. This is particularly evident when the health care system they are being treated in is set up to cater for a culture not their own. Facilities associated with health care system within hospitals, community health care centres, general practitioners etc are commonly geared to providing care for the most dominate culture in that society (Hall 1999). As a result, personal cultural needs of minority groups are usually not taken into account for the sake of the system and the logistical ease of process. As social practices differ from culture to culture, misunderstandings can and do occur despite the best intentions of health care professionals.

Examples of cultural differences could be as simple as dietary requirements (such as Lent in the Christian faith or the Halal preparation of foods in the Islamic faith), to complex cultural matters such as strict prayer rituals. These cultural factors relate to how a person may locate themselves within a society or group and without this 'anchor 'to their faith or culture, these individuals may feel threatened or vulnerable. Given that during hospitalisation these individuals would already feel vulnerable due to illness, the implications are that further misunderstanding and emotional distress may occur.

Strategies to reduce vulnerability

Social vulnerability

The implications posed by social vulnerability may never be fully rectified due to many confounders some of which are unmodifiable. Examples of these unmodifiable confounders are, sex, ethnicity and age (Rogers 1997). These are, as mentioned previously, actual and inevitable and for the most part extremely difficult to alter. However identification of these specific confounders can be of use when tailoring care for patients. On a subconscious level all nurses adjust ongoing plans of care or discharge to accommodate these factors. An example of this would be age. It would be appropriate to discharge a previously fit and healthy married 26 year old male home within days of undergoing an appendectomy as his personal capacity is relatively high compared to a patient with similar surgery but who is 86 years old. The latter patient would most likely have a complicated past history or progressive debility (due to the fact of age) that would require not only a longer stay in hospital but further investigation into his personal circumstances as they also may compound the issue (such as does his wife require care etc).

Other identifiable contributors to social vulnerability are the availability of education and employment but knowledge and money cannot guarantee better circumstances for all. The only effective strategy to assist those identified as the socially vulnerable is continuing individual education. Education can assist the individual in gaining control of their life allowing them to make informed decisions in a variety of ways (Kuokanen 2003). Education, as a form of personal capacity building, can not only allow the individual to obtain higher paid employment but can also allow them ready access to health care as they would have the ability to afford it, as well as empowering them with information of choice of treatment and hopefully a better standard of living (Ferrer, Hambidge and Maly 2005; O'Connell and Warelow 2001). One such example would be if education were directed to their current or potential health condition this information and its synthesis could potentially lessen or prevent any associated complications (Nicklin 2002).

Physical vulnerability

Obvious strategies to reduce physical vulnerability include those ingrained into the professionalism of nurses and other health care workers such as risk management in all facets of the patient's health care trajectory from admission to discharge. Some effective mechanisms to reduce physical vulnerability that are implemented on a routine basis are universal precautions and infection control. These have historically been found to decrease further complications in patients being treated by health professionals (Preston 2005; Al-Damouk M 2004).

Another strategy is critical incident management. This usually involves health professionals discussing errors in treatment or despite best intentions of the health professionals an undesired outcome. An example of a critical incident management would be a drug error. It has been found that these open and frank discussions of such critical incidents are beneficial and actually decrease such errors from happening (Copping 2005; Silverman et al 2003; Rapala and Kerfoot 2005; Kenzi-Sampson 2005; Canale 2005). Proactive nursing and strategic planning can benefit current patients and has the potential to reduce vulnerability in future patients.

Finally physical vulnerability can be reduced through education of, not only nurses and other health professionals, but the individuals suffering from these conditions as it provides the individuals with an understanding of how to approach the situation (Wagner 2000). When nurses or another health care professionals are educated in or proactive in development of their own knowledge base on any particular condition, treatment or care related matter outcomes are invariably better for the patient outcomes (Ireson and Grier 1998; Kitson 1997).

Furthermore, when health professionals communicate and educate their clients, health outcomes of their patients are improved (Seidel 2004). Clear and precise information put to the patient in terms they will understand prepares them for their condition.

Psychological vulnerability

Although hard to predict, psychological vulnerability may be avoided through a number of nurse-initiated courses of action. As nurses are the constant caregivers for acute medical facilities providing 24 hours a day seven days a week care, they are predominantly the ones who develop a therapeutic relationship with clients through the necessity of being understanding and considerate to the individual's needs (Klein 2005; Fradd 2005; Sweeney and Tapper 2005; Haberfelde, Bedecarre and Buffum 2005; Falk-Rafael 2001).

The physical presence of a nurse or health care worker during a time of insecurity for an individual can be seen as therapeutic also referred to as 'presencing' (Irurita 1999). Presencing can be a powerful tool in alleviating feelings of vulnerability as it is not only the act of being in the vicinity of the patient but of understanding the patient and potentially preempting any possible physical or psychological deterioration in their state (Snyder, Brandt and Tseng 2000; Mitiguy 2000; Daniel 1998; Mallick 1997).

Advocacy is another powerful tool that a nurse may use to assist a patient with psychological vulnerability. Nurses are trusted to make assessments of patient care be it physical or psychologically that would best serve the patients interests (Bennett 1999; Mallik 1998; Falk-Rafael 2001). To best understand what these interests are, nurses or health practitioners need to have frank and open discussions with the patient or relatives to help facilitate appropriate care for the individual (Unknown 2003). As with most open Western societies, people from a wide variety of cultures and nationalities live within relativity close proximity to one another. As nurses from such societies one possible intervention is to engage with patients from multiple groups on multiple levels and also turn to the conditions that control influence and produce health or illness in human beings (Canales 2000). This would mean active involvement in influential groups such as representative bodies to government organisations or programs.

CONCLUSION

Vulnerability has been defined within the context of Western health care system and as such raises the following issues. Unfortunately this review of current literature indicates no counter-arguments to those that have been presented in relation to the various forms of vulnerability. All states of vulnerability are accurate and appropriate in the context of the study or incidence alluded to but further discussion and research is required to achieve a consensus to when, how, why and who is vulnerable. One question is: should vulnerability be only classified as a purely social, psychological or physical state or be defined in degrees of vulnerability depending on numerous factors? It is this recognition of the potentially differing classifications of vulnerability and the particular contexts that can be used that may assist nurses and other health care professionals with not only problems associated with a patient's hospitalisation but in the implementation of appropriate strategies to enhance an individual patient's care.

These factors may be complex and difficult to prevent or adjust, such as social status or cultural custom. Or they can be as simple to prevent or adjust, such as education of the patient on the risk and benefits of treatment. But all are individual to the patient be it their pre-disposing and potentially preventable factors, treatment, care and actual condition related issues and how these factors relate to their altered health state or 'post-disposing' factors associated to this weakened state. For any admission to any acute hospital environment there are factors which have, may or will affect that person, before, during and after their stay.

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THE PROFESSIONAL SELF-CONCEPT OF NURSES: A REVIEW OF THE LITERATURE FROM 1992-2006.

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ABSTRACT

Objective:

This paper will discuss some recent concerns about research in the area of the professional self-concept of nurses, and trace the development of the literature on professional self-concept of nurses over the last 14 years.

Primary argument:

Professional self-concept or how nurses feel about themselves as nurses is vital in examining current and future nursing practice and education, as it affects patient care.

Conclusion:

The essence of the paper is the identification of three streams of literature: 1) which has 'emerged from the development of the Professional Self-Concept of Nurses instrument'; 2) literature which fails to consider recent or current research in the area; and 3) 'well-conducted work in the topic area'. The implications for nurses, educators and students are presented.

INTRODUCTION

The issue of self-concept is a central issue in the study and practice of education and psychology. How self-concept translates into professional life or identity and how it impacts on an individual's professional performance is an issue, which several nurse authors have pursued (Arthur et al 2000; Arthur et al 1999; Arthur et al 1998; Arthur and Thorne 1998; Frahm and Hyland 1995). What professional self-concept is, how it is measured, how it is taught or passed on and how it impacts on a practice discipline like nursing (Arthur 1992; Arthur 1995; Beeken 1997; Burnard et al 2001) are questions frequently asked, suggesting the issues are important, and underscoring the existence of professional self-concept as a discipline area of nursing.

This paper will examine two groups of research articles in the area which have emerged: they are articles that pursue the topic with research rigour and those that pursue the topic without research rigour. Research rigour in this sense refers to research which critically synthesises proven work. Research without rigour pursues research questions with research rigour but without building on, acknowledging or incorporating previous research, to the detriment of the topic. This results in a 'dumbing down' of this important topic.

Fourteen years after a critical review of the measurement of the professional self-concept of nurses (Arthur 1992), some valuable research (Cowin 2006; Cowin 2001; Randle 2000) exists. However, several studies have been conducted which slow down the pursuit of better understanding of the concepts and how they translate to practice.

This paper traces the development of the professional self-concept of nurses over the last 14 years, and uses the developments to highlight some critical issues in the development of nursing knowledge, using professional self-concept as an example of how other discipline areas may be being under-served.

LITERATURE REVIEW

Search methods

A CINAHL, Medline and British Nursing Index search was conducted of literature published between 1990 and 2006 using the key words 'self esteem', 'self-concept' and 'professional self' in the title. Papers which focussed on self esteem or self-concept of patients or clinical samples were screened so that those reviewed addressed nurses as their subject.

Global self-concept and domain specific professional self-concept

Global self-concept and domain specific professional self-concept has been of concern to scholars from various disciplines for over 100 years (James 1890; Harter 1999). Prior to reviews on studies examining professional self-concept, it is important to examine its relationship with a person's global self-concept and its existence as something that can be measured to provide a new look at what has gone on before and developments in this area in order to provide new insight.

When examining the theory 'the professional self-concept', several classic issues emerge that scholars historically identified. James (1890) distinguished between the I-self and the me-self thus differentiating between the private and public self and the reciprocal nature of the relationship between the two elements of the self-concept. He also paved the way for contemporary models in which the self-concept is viewed as multidimensional, hierarchical and cognitively constructed. Harter (1999) brings a contemporary focus on self-concept theory by portraying the self as dynamic and consisting of a variety of roles.

Global self-concept refers to the overall evaluation of one's worth or value as a person and is not a summary of self-evaluations across different domains, for instance the domains of being a mother or a nurse. Domain specific evaluations refer to one's worth as a mother, a nurse or of physical appearance and so forth. This allows us to address the issue of whether evaluations in some domains are more predictive of global self-concept than others.

The self-concept as a dynamic structure is also important to our work as it legitimises why self-concept changes, although it is acknowledged that it is likely that maturity allows us to 'buffer' potentially transient and disparate views, and thus have a relatively stable self-concept. Our work also relies on the assumptions of the symbolic interactionists such as Cooley (1902) and Mead (1934) who place emphasis on the interactive processes shaping the developing self-concept. What this means for the professional self-concept, is that it is established and developed as a consequence of nurses adopting the generalised perspective of other nurses. Given that there are many changes evident in health care which create many demands on the professional self-concept across a variety of social contexts, it appears that the professional self-concept is complex and cannot be isolated from the context in which nursing practice occurs.

Leaving this aside, we can then turn to the issue of why study of the professional self-concept should be of continuing concern. As the self-concept is the largest determinant of behaviour, then it could be implied that the professional self-concept, that is: how nurses feel about themselves as nurses, is vital in examining current and future nursing practice.

Nurses with a healthy self-concept are likely to affect patient care in a positive direction. Conversely, those nurses who have poor self-concept are likely to affect patient care in a negative manner. Previous studies have demonstrated the relationship between those nurses with a healthy self-concept and the positive delivery of patient care. Having a healthy professional self-concept means that nurses feel good about themselves, and as people become more positive about themselves, they generally become more positive about others (Andersson 1993). It is argued that educators and nurses themselves can facilitate the development of a healthy professional self-concept and thus affect patient care in a positive direction.

Professional self-concept research fourteen years on

A paper published by Arthur (1992) on professional self-concept of nurses highlighted that if we are serious about the issue of the professional self-concept of nurses, we need to develop and refine instruments which are valid and developed with homogeneous nursing samples. At that time there were no instruments available apart from those developed for measuring global self-concept (the terms self-esteem and self-concept are used synonymously here) such as the Tennessee self-concept scale (TSCS) and Rosenberg's self-esteem scale.

Arthur (1992) was influenced by the work of Dageneis and Meleis (1982) who used an instrument developed for **NASA** employees, and some shaping work by educational psychologists who developed an instrument for teachers. The comments which arose from this paper were that new measures needed to be developed, samples needed to be larger, replication is necessary, and studies using tools measuring global self-concept that purport to measure domain specific self-concept, should not be used in isolation.

The Professional Self-concept of Nurses Instrument (PSCNI) was developed by Arthur in 1990 (Arthur 1992) with the expressed purpose of exploring how nurses viewed themselves as professionals. Since that paper was published, if the refereed literature is to be our guide, three streams of research have emerged. The first stream has emerged from the development of the Professional Self-concept of Nurses Instrument as advocated in Arthur's work (1992); the second stream of literature fails to consider nor acknowledge recent or current research in the area and in that sense is not conducted with research rigour; the third stream is well-conducted work in the topic area presenting sound, disciplined and rigorous research. Research rigour refers to work which is critically based, examining the strengths and weaknesses of previous work, proceeding with a rationale based on a synthesis of previous work in this discipline of the professional self-concept of nurses.

First stream: emerged from the development of the Professional Self-Concept of Nurses Instrument (PSCNI) in nursing branches and different cultures

Several studies (Arthur et al 1999; Arthur et al 1998; Arthur and Thorne 1995) that cluster in the first stream develop norms from samples of nurses in different branches of nursing and in different countries using the PSCNI and develops associations between professional self-concept and caring attributes and technological influences (Arthur et al 1999; Arthur et al 2002; Noh et al 2003). Likert scale type questionnaires have been the predominant method used and have taken the form of self-report instruments.

The PSCNI (Arthur 1995) is an elaborated questionnaire and has been extensively used. The questionnaire consists of 27 likert style statements. The internal consistency of the instrument has repeatedly been shown to be high and factor analysis in several studies has supported a five sub-scale structure with items clustering under the subscales of: leadership, flexibility, skill, communication and satisfaction (Arthur and Thorne 1998; Arthur et al 1998; Arthur 1995).

The well-established advantage of this questionnaire method is that researchers can collect large amounts of data in a relatively short space of time. For instance, Arthur et al (1999) were able to collect data on a large sample of nurses from 12 countries and make comments about the different levels of professional self-concept which had interesting demographic features, such as the younger age of nurses in Asian countries compared to European countries.

Additionally, with a sensitive topic area such as self-concept the anonymity of participants can be assured and a normative data-base developed for nurses which includes their race, gender, education levels and experience. Norms have also been developed for nurses from different branches for example some useful insights into the differences between Korean and Hong Kong psychiatric nurses and Asian nurses and European nurses have emerged (Arthur, Pang and Wong et al 1998). The PSCNI was also used in a descriptive study by Frahm and Hyland (1995) and Randle (2000).

Stream 2: Literature which fails to consider recent and current research

Arthur's original review in 1992 identified studies that are conceptually weak and instruments used that do not necessarily match the presented conceptual framework. Such studies are still evident in recent literature and it appears there is a lack of replication and neither development of norms, meta-analysis nor critical review of the discipline area is evident. Studies have been flawed by small sample size, non-random samples and weak sampling techniques.

A CINAHL post 1992 search for the terms self-concept and self-esteem again revealed hundreds of clinically focused studies but only 24 studies of either 'self-concept of a sample of nurses' or 'professional self-concept of nurses' research. Five were Doctoral or Master's thesis (Kineavy 1994; Frahm and Hyland 1995) and 20 were descriptive studies using non-random samples, many of small size (Fothergill et al 2000; Holroyd et al 2002). Most (15) examined self-concept or self-esteem as measured by instruments such as The Culture Free Self-Esteem Inventory (n=2); the Tennessee Self-Concept Scale (n=2); the Rosenberg Self-Esteem Scale (n=8); Coopersmith's Self-Esteem Inventory (n=1); The Perlow Self-Esteem Scale (n=1); or qualitative methods. Two were longitudinal studies, only one of which looked at nurses' professional self specifically (Lo 2002; Randle 2000). Only one of these, a master's thesis, replicated the PSCNI (Frahm and Hyland 1995).

Authors have persisted in examining the professional self-concept in a way that does not build on previous research, which is methodologically flawed and which is not contributing to the issue in clinical practice. One study which stands out amongst these is that of Takase et al (2001) who published a paper examining a non-random sample of 80 registered nurses in Western Australia using the Porter Nursing Image Scale, work satisfaction and nursing performance. Despite a well argued conceptual framework the instrument, which was reported once in 1991, does not clearly fit the conceptual direction of the study. This study had a return rate of less than 25% and ignored the recent work reported in stream one. At best this is an example of methodologically weak research, or at worst an example of conveniently ignoring current, relevant research in the area. One of their research questions seeks to understand the relationship between certain variables and 'nurses' self-concept' and a literature search would have revealed many papers in the area which were not mentioned by the authors.

Stream 3: Breaths of fresh air

The third theme is that of outstanding studies by virtue of their rigour and/or method. Cowin (2001) developed a new instrument to measure nurses' self-concept based on a rigorous review of the literature and a growing body of evidence on how discrete the domains within self-concept become in adulthood. This was part of a PhD thesis which used expert panels and rigorous psychometric analysis and reviews. Additionally a pilot study was conducted and there was a large random sample (n=1034). A 36 item, six sub-scale instrument emerged which examined the effects of a positive nursing self-concept on multiple dimensions of nurse' job satisfaction and retention plans.

Cowin (2006) explored the development of multiple dimensions of nursing self-concept and examined their relationship to graduate nurse retention plans. Graduate nurse attrition is an increasing phenomenon within a world of decreasing nursing numbers. The newly developed professional self-concept for nurses provides an indicator for predicting nurse retention. A descriptive correlation survey design with repeated measures was utilised to assess nurse self-concept and retention plans.

The survey method was used to elicit responses initially from graduating nursing students at three points in time throughout their graduate nursing year. Participants were students who had just completed their undergraduate nursing degree at a major university in Australia. One hundred and eighty seven students agreed to complete the self-concept and retention survey. From the initial pool of 187; 83 graduate nurses agreed to participate in the second phase of the study. The attrition rate from the study could be related to the high mobility of the new graduate workforce exercising their right to withdraw from the study. The implications of the study were that monitoring of self-concept throughout the transitional period for new nurses can lead to early detection and appropriate intervention strategies thereby improving retention rates for nurses.

Another advance was by Randle (2000) who developed our understanding of nurses' self- concept using a mixed method in a longitudinal study of 56 nurses who studied a Diploma of Nursing program. The main method of data collection and analysis used a grounded theory approach. Personal accounts were elicited through interviews at the start and end of students' three-year course; these were responsive to the unique nature of professional self-concept as perceived by each individual.

The author was able to access extremely sensitive material from student nurses studying in the United Kingdom. Each interview lasted between 30 and 90 minutes and was recorded on audiotape. Overall the interviews demonstrated that students wished to quickly identify with the professional self-concept, although the realities of this caused confusion and anxieties. This resulted as some events they witnessed which involved their role-models, qualified nurses, were incongruent with their previous images of professional nurses. The same students were interviewed toward the end of their course. At this point, students appeared to have completely assimilated the professional self-concept and this was to the detriment of themselves and others.

The professional self-concept arose from a social and cultural phenomenon, namely professional socialisation. This affected professional self-concept through the assimilation of professional norms. The context in which students began to identify with and develop their professional self-concept was central to any developments in self-concept theory. Becoming a nurse and the subsequent feelings associated with how they felt about themselves as would-be-nurses, were greatly influenced by how students were treated by nurses in clinical areas. Social control was imposed through largely negative experiences for both students and the patients they cared for. A hierarchy existed in that having power over someone or something became integral to their self-concept. The descriptions students offered during interviewing shows an undermining of self-concept so students became powerless to act therapeutically or positively to others.

The quantitative data, collected by the Tennessee Self-Concept Scale (Roid and Fitts 1988) produced results which corroborate the qualitative findings in that deterioration in self-concept was found. It was argued that whilst professional self-concept remained stable over the training period, student nurses were able to project a positive professional self-concept in order to 'save face'.

The work of Randle contributes to our understanding of professional self-concept as it integrated qualitative and quantitative approaches to uncover processes which occur at both individualised and organisational levels. It also acknowledged that although questionnaires have been the most common research tools for the investigation of self-concept to date and have certainly played an influential part in identifying the problem, to uncover the full story, researchers may have to take a more integrative approach.

The debate over objective and subjective data collection is not new in this field. Researchers in the field also disagree about the reliability and validity of self-reports on the part of the individual; that is the inside perspective on the phenomenon of the nurse. This study offered a systematic study of professional self-concept in its social context. From Randle's study it would appear that the climate of organisation and culture can have a strong influence on the ways professional self-concept is defined, identified and assessed.

The debate indicates the need to explore the issue of professional self-concept at different levels, from individual to organisational. There are subjective and objective aspects to be taken account of, as well as individual, social and cultural aspects.

CONCLUSION

An examination of the last 14 years of research in the area of professional self-concept of nurses has helped highlight not only developments in the area, but also raises questions about the strengths and weaknesses of nursing research. Firstly we need to ask ourselves is our research disciplined or undisciplined. There is a concerning trend in the literature that some nurse researchers are ignoring previous valuable research. We have argued that the resulting material in the context of building a discipline on the domain professional self-concept of nurses or the global self-concept of nurses is flawed. Is this reflection on the pressure with which nurses have to produce research? Is it a reflection on the quality of supervision provided for research students? Is it a reflection on the quality of the review process in nursing journals or is it combinations of these?

Clearly some researchers have produced disciplined works as both Randle (2000) and Cowin (2001) have provided new insights both qualitative and quantitative, and both have recognised the limitations of the PSCNI and its previous uses. Interestingly the PSCNI was found not sensitive to the changes revealed through interview and with the TSCS in Randle's sample, yet in a study of Korean psychiatric nurses (Arthur, Sohng and Noh 1998) there was a correlation between the PSCNI and the Rosenberg self-esteem scale.

Rigorous scholarship is important and those who intend to publish in the area must conduct a sound literature review, both broad and deep, and critique the research in the area. For example it is not sufficient just to search for 'self-esteem' when working in this area, as a large body of material lies under the title 'self-concept'.

Research supervisors need to encourage their students to develop a strong argument for the use of an instrument and ensure this is achieved through a critical review of all instruments in the area. This would culminate in a rationale which supports the use of an instrument based on the research questions; the conceptual framework; and the reliability and validity of the instrument. Further research is needed in which replication of instruments and methods, and congruent and concurrent validity testing of instruments, is pursued.

Secondly it appears that material not appearing in the refereed literature, is mounting. Since 1992 informal communication between the author of the PSCNI and many colleagues have resulted in the instrument being translated into several languages, European and Asian, and permission has been given for the instrument to be used in numerous studies which, unfortunately the author has not been able to track. However, the evidence in the literature is not convincing. Research is being conducted but not published and this is biasing the discipline as only four of the numerous communications have resulted in material being published in the refereed literature.

Finally, the matter of application of this research to practice needs to be considered. In an environment with mounting pressure for the use of evidence-based practice and randomised controlled trials, the luxury of examining ourselves as a profession and professionals is diminishing. Despite this it seems the profession is still keen to pursue self-concept, but unfortunately this is still at a descriptive level. If researchers are keen to write and research on professional self-concept, it is time to translate the descriptive studies and their findings into practice.

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