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Open access to nursing journals: an audit of the 2010 ERA journal list

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KEY WORDS

MESH terms, access to information, publishing, peer review research, information dissemination, evidence-based nursing

ABSTRACT

Objective

To determine the proportion of nursing journals that are fully open access or have some elements of openness, and hence are readily accessible by nurses in clinical settings.

Design

A descriptive study, with interpretive analysis of existing data sources.

Setting

Access to online journals from the perspective of a nurse as a consumer.

Subjects

Nursing specific journals from the 2010 Excellence in Research for Australia (ERA) list of publications.

Main outcome measure

The proportion of nursing journals with unrestricted online open access as of October 2011.

Results

Of the 224 journals included in this research, 12% (27/224) had unrestricted open access to all published manuscripts, 39% (88/224) had partial or conditional access and 49% (109/224) had no elements of open access, and required the consumer to have access to a paid subscription.

Conclusion

Approximately half (51%) of nursing journals surveyed have all or some articles that are open access. This is higher than other studies of open access research articles globally. However, barriers at an institutional level may need to be addressed to ensure nurses can be informed in their care of patients.

INTRODUCTION

Codification and quality assurance of the knowledge-base is central to every discipline and profession. In the scientific health care disciplines, including nursing (Oermann et al 2008), this codified knowledge is distributed primarily through journals which offer both discovery and archives (Clarke 2008). The e-revolution since 1995 has enabled the discovery and download of openly-accessible information as never before. However, this has created tensions between the norms of the ePublishing era and the longstanding 'learned publishing' marketplace, along with the traditional practices of professional attainment and privilege. In addition, there has inevitably been some resistance against the breaking down of longstanding barriers that prevented clinician access to researchers' sources, and healthcare consumer access to clinicians' sources. The clinicians' role now is increasingly that of interpreter and consultant, rather than guardian of health knowledge (Willis et al 2008).

This article examines access to information of value to nurses in clinical settings from the viewpoint of the nurse as a consumer. Nurses work in a wide range of settings, with variations in resources, including hardware and software, and in non-patient-load (super-numerary) time for educational and research endeavours. In most settings, uninhibited access to professionally-relevant information is valuable. A scan of lists of open access journals, such as the 'Directory of Open Access Journals' (Lund University Libraries 2012) and 'Online Journals' (Thede and Sewell 2010) shows that many journals that are categorised as openly accessible are not available in English, or are not peer-reviewed. Consequently, it would be valuable to offer an audit of current open access publishing. A tertiary system of collation, such as the Excellence in Research for Australia (ERA) initiative which was instigated by the Australian Research Council and prepared by the academic disciplines, includes venues that contain English-language, peer-reviewed papers categorised by disciplines, and offers a useful existing data source for this kind of audit.

LITERATURE REVIEW

Despite the growing availability of research evidence, nurses have been slow to adopt research into their daily decision-making (O'Leary et al 2012). In what is now dated research, nurses most frequently used experiential knowledge sources ahead of their initial nurse education, workplace sources, physician sources, their intuition, and then research literature (Estabrooks 1998). That study also found that the research literature that nurses did say they used was nursing newsletters reporting on projects, rather than the project publications themselves. More recent findings demonstrate that nurse decision-making is more influenced by their colleagues than research papers (Scott et al 2011) and they favour easily accessed, 'pre-packaged information' such as policies and guidelines over research reports (O'Leary and Mhaolru'Naigh 2012). This may be a concern, as these guidelines may or may not be research-based (Bail et al 2009).

Ease of access to research information is particularly important for clinical nurses, given the increasing gap between university-based academics and clinical nursing environments (Allan et al 2008). Another example of 'pre-packaged information' is the use of open source information such as Wikipedia. One research project identified that 56% of the references cited on the Wikipedia pages reviewed could be clearly identified as originating from reputable sources, suggesting that easy access sites such as Wikipedia could be a useful tool for critical appraisal and literature searching for nurses (Haigh 2011). Citations with a free link to the research article have been found to increase the proportion of psychologists reading the article (Hardisty and Haaga 2008), demonstrating the importance of easy accessibility for clinicians.

Other barriers to research-based practice have been described by Australian nurses as lack of accessibility of the research findings and inadequate organisational support, particularly in relation to providing time

to use and conduct research (Retsas 2000). This has been reinforced more recently, as uncertainty in the work environment, including team relationships, has hindered nurses' utilisation of research (Scott et al 2011). The burgeoning field of methods for translating evidence demonstrates considerable diversity of terminology, and includes 'knowledge transfer' (Pentland et al 2011), 'practice development' (McCormack et al 2004), 'evidence-based practice' (DiCenso 2003), and 'evidence-informed practice' (Ciliska et al 2008). In part this range of nomenclature reflects the changing frameworks for work-based learning. For example, practice development urges clinicians to identify their practice problems, seek relevant information, and work with team members to integrate new practices within current environments (McCormack et al 2004). This acknowledges that research is not simply 'disseminated' into practice, but requires a complex relationship of awareness, initiation, problem solving, team work, leadership, and resources (Wilkinson et al 2011). The 'theory to practice gap' (Duke et al 2008) is increasingly intensified; one recent count measured 75 medical trials and 11 systematic reviews being published daily (Bastian et al 2010).

More fundamentally, however, the primary barriers to nurses accessing current research are organisational support for computer use, including access to computers, information technology (IT) and librarian support (Nkosi et al 2011). The lack of computers, or lack of computers in clinical environments, is more marked in rural and aged care settings (Hegney et al 2007). Additionally, many nurses find that workloads prohibit the use of computers for professional development while at work, with more than half of those surveyed using their home computers instead (Hegney et al 2007). Consequently there is a mismatch in nursing duties, with an expectation that nurses work with current evidence (Australian Nursing and Midwifery Council 2005), but with limited ability to access or integrate research during clinical practice.

To overcome the 'evidence to practice' gaps and enhance knowledge transfer, published research should be presented in plain language and in accessible formats (Sudsawad 2007). "The Internet has brought with it both means to disseminate and access content, and an enhanced expectation that content will generally be readily accessible" (Clarke and Kingsley 2009, p.1). Catalysts for the open access movement include national policy mandates, university policies, and increased emphasis on self-archiving in institutional repositories (Cryer and Collins 2011). However, these types of 'opening up' of information threaten entrenched for-profit activities, which are based on closed approaches to publishing, facilitated by copyright laws (Clarke and Kingsley 2009). Open access supporters argue that the only constraint on reproduction and distribution of research information should be the provision to authors of "control over the integrity of their work and the right to be properly acknowledged and cited" (Budapest Open Access Initiative, 2002 p.1). The enthusiasm of academics to have access to research articles has led to considerable improvements during the last decade. This paper shifts the debate from access by academics to access by professionals, because "access to health research publications is an essential requirement in securing the chain of communication from the researcher to the front-line health worker" (Chan et al 2009 p.1).

There are few publications on open access in the nursing literature (but see Morris-Docker et al 2004; Lyons 2010). Consequently, knowing more about what evidence is easily available to nurses in clinical environments would be valuable in further understanding current barriers to evidence-informed clinical practice, for the benefit of patient care.

METHOD

Aim

The aim of this research was to determine the proportion of refereed nursing journals that are open access or have some elements of openness from the perspective of a clinical nurse.

Design

This study was 'simple descriptive' in design (Kermode and Roberts 2006), comprising analysis and interpretation of publically available data. This article reports on the first part of a larger study that aims to explore and describe the openness of journals across a number of disciplines including midwifery, exercise science, psychology, education, government, and nutrition in Australia. The process described below outlines the method used for the nursing sub-study.

Population

The population for this study was defined as being those journals listed on the Excellence in Research for Australia, Australian Research Council (ARC) website (ARC 2010). This information was available in a downloadable Microsoft Excel format, and included details such as the journal name, and up to three Field of Research (FOR) codes. In total, this list included 20,712 Australian and international journals.

Sample

The sub-population examined for this study included all journals that had a primary FOR code of 1110. This FOR code relates to journals classified as having the largest component of research from, or being most relevant to, the nursing discipline (Australian Bureau of Statistics 2008). This included 232 journals. Journals with an FOR of 1110 as either their secondary or tertiary field were excluded (n=31) from this study.

Data collection

Data relevant to elements of openness was collected from the official website of each listed journal during September 2011, and entered into a Microsoft Excel spread sheet. Determination of these elements was through discussion and agreement by the multidisciplinary team of academics, so that the elements of openness were consistent with each discipline's approach in regards to access and format. Open access for the purposes of this study refers to materials that are openly accessible online without restriction. Open *format* refers to materials that use standard and readily-interpreted formats such as HTML, ODF, and Ogg. PDF was coded as a partially open format. This was appropriate for both the broader project and nurses in disadvantaged settings, such as those in rural areas, because they may not have software packages to enable reading of specific formats. Each journal was coded against these two elements as either being completely, partially or not open. Data collection was undertaken without taking advantage of subscription access to journals or publishers. For each journal that was completely or partially accessible, format was then assessed.

The data collection process was subject to a number of limitations. Data collection was undertaken purely from the manuscript consumer's perspective. A journal was *not* explored from the perspective of the publishing author, and hence this research does not take into considerations of openness from an author's perspective, such as the need for an author to pay to publish their work.

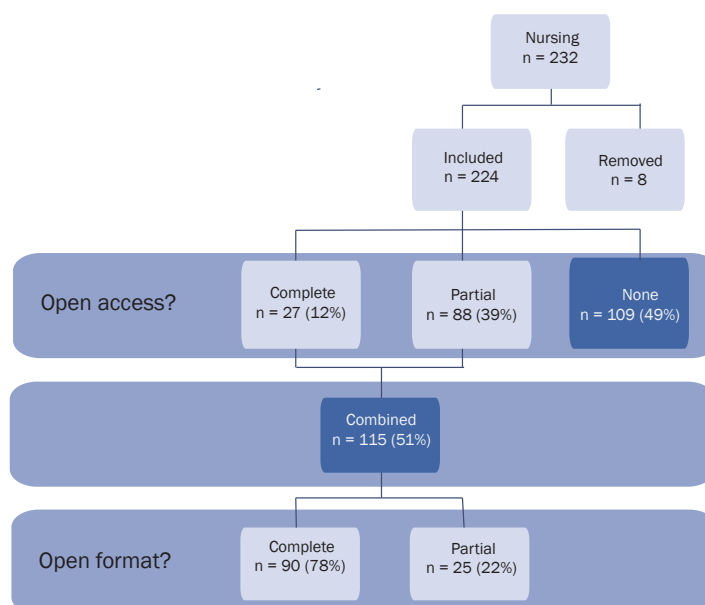
Data analysis

Microsoft Excel was used to determine descriptive frequencies of open access and format, which are reported in figure 1.

FINDINGS

In total, 232 journals were identified as being within the sub-population of journals most relevant to nursing (FOR code 1110). Of these, eight journals were removed, because they had ceased publishing, were unable to be located on the internet or on inspection were found to be not nursing-related. Hence 224 journals were included for analysis (figure 1). Of the 224, 12% were found to be completely open access, and 39% partially open access, whilst 109 (49%) had no elements of open access. Of the 51% that had complete or partial open access, the majority (78%, 90/115) had completely open and transferrable format types.

Examples of elements that qualified a journal as partially open access are listed in table 1.

Figure 1: Surveyed nursing journals with open access and format**Table 1: Elements of partially open access****Open access restricted to:**

- Current or most recent issue
- Trial issue
- Sample copy
- Five most downloaded articles
- Editors' choice

DISCUSSION**Comparable level of open access**

We examined 224 nursing journals and found 12% had complete open access, and more than 51% had complete or partial open access [see table 1]. Research across disciplines generally has recently reported an open access rate of 10% (Munch 2011). With 12% complete and 39% partial open access, nursing journals can be seen to have at least as high a rate of open access articles as the global average. This finding suggests that investigations into barriers for evidence/practice integration need to focus on institutional and clinical factors, and not only on the open access status of relevant journals.

Benefit for clinicians and patients

In clinical settings, removing barriers against access to information is important for knowledge transfer and enhancing patient outcomes. Arguably, this access is particularly important for nurses working in marginalised environments, such as rural, remote or third-world settings, where other kinds of access to knowledge and education may be limited (Hegney et al 2007), but patients nevertheless deserve safe clinical practice informed by up-to-date research (Chan et al 2009). Better access to peer-reviewed resources is only one of the pre-conditions for the incorporation of research evidence into practice.

However, Hardisty and Haaga (2008) found that whilst open access increases the incidence of clinical nurses downloading and reading research articles, it does not necessarily influence clinical practice (Davies et al 2011). Crucial factors in improving evidence utilisation for nurses appear to be clinical leadership in integrating research with practice, and revision of organisational guidelines to incorporate research outcomes (Allan et

al 2008, O'Leary and Mhaolru'Naigh 2012). The study reported on in the present paper demonstrates that some of the relevant information is available to nurses on the internet.

Open access to the internet in the workplace is a useful but unrefined tool for encouraging the retrieval of information for practice (Morris-Docker et al 2004). Currently, some workplaces have restrictions on the use of the internet within the clinical environment (Hegney et al 2007). If not carefully implemented, these restrictions can block access by clinicians to appropriate and necessary information. This study has indicated that access to journals for nurses is reasonably good, so investigating barriers at the institutional level would be valuable.

Limitations

This study only looked at the ERA list, and only at journals whose primary focus was nursing, so these findings may not necessarily be generalisable to all nursing journals. This was a study undertaken in October 2011, and such timings should also be considered. While not the focus of this study, it was apparent during analysis, that the partially open access journals tended to only provide access to one free issue or sample, so the difference between completely open and partially open is a significant one.

Research implications

It would be beneficial to repeat this research every one or two years, in order to longitudinally track the trends in journal openness. Further research into the practices of journals in relation to partial access would offer important information about article distribution – for example, whether the most up-to-date articles are most openly available (Crawford 2010). However, it would also be important to investigate relationships between open access, editorial boards, and publishing companies' policies and practices. Additionally, factors that influence authors to publish work in open access journals, and not to do so, should be explored. Such factors may include the need to pay a fee to publish in some open journals, or the requirement of their profession or institution. This is particularly relevant for the science disciplines, which tend to focus on citation impact, reputation, and accessibility to a specialised readership rather than the breadth of readership, copyright, or access status (Munch 2011).

CONCLUSION

This is the first study to explore the open access status of nursing journals. The study found that nursing journals have at least as high a level of open access as the average for disciplines generally. However, barriers at an institutional level, such as computer/internet access and a supportive professional-development environment, may need to be addressed to ensure nurses can benefit from the open access of nursing journals to inform their care of patients.

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A view from the outside: nurses' clinical decision making in the twenty first century

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KEY WORDS

Culturally and linguistically diverse nurses, clinical practice, patient assessment, professional practice, patient safety

ABSTRACT

Objective

The purpose of this paper is to highlight some observations of clinical decision making processes made by culturally and linguistically diverse nurses (CALD), in relation to elderly patients in particular. It will explore some of the potentially serious professional and legal implications for nurses when there is an over reliance on experiential knowledge and routine tasks without mindful application of evidence and consideration of the ethico-legal imperatives.

Setting

The CALD nurses in the study were enrolled in competency based assessment programs (CBAP) in two universities in Melbourne, Victoria between 2005 and 2006 in preparation for their professional registration in Australia.

Participants

Following ethical approval from the relevant universities and participating hospitals, a purposive sample was chosen followed by theoretical sampling. Fourteen CALD nurses and three teachers, who were directly involved in the clinical supervision of the nurses during their placement took part.

Primary Argument

Using some *in vivo* quotes to highlight what appear to be less than optimal decision making process by nurses, it will be argued that sound decision making in clinical practice is ideally based on a combination of factors; amongst them professional judgement and a sound knowledge base, supported by principles of physical/psychological assessment and ethical principlism.

Conclusion

The views of nurses who are new to the system can foster reflection on practices that have become routine, potentially lacking in application of scientific knowledge, and therefore a potential threat to patient safety with associated legal implications for the nurse.

INTRODUCTION

Clinical decision making is an integral part of nurses work and vital to health outcomes for patients. If based on reliable decision making criteria it can constitute a legally defensible position for the nurse in the event of a malpractice accusation. However, when handling large volumes of rapidly changing clinical information, coupled with organisational imperatives, nurses need to consider a range of factors to guide and support decision making processes.

Using the findings from a small qualitative study on the experiences of a culturally and linguistically diverse (CALD) group of nurses enrolled in competency based assessment programs (CBAP) in Melbourne; this paper will highlight some observations of clinical decision making processes made by CALD nurses, in relation to elderly patients in particular. It will explore the professional and legal implications for nurses when there is an over reliance on experiential knowledge and routine tasks without mindful application of evidence and consideration of ethico-legal imperatives. A brief overview of the study will be presented with a view to explaining the background and context of the argument.

This will be followed by a brief review of the literature aimed at providing an overview of nurse migration and professional expectation in the host nation, clinical decision making and ethical principlism. Some *in vivo* quotes will be used in appropriate sections of the literature review to highlight links between the concerns expressed by CALD nurses and published views regarding clinical decision making. It will be argued that sound decision making in clinical practice is ideally based on a combination of factors; amongst them professional judgement, a sound knowledge base supported by principles of physical/psychological assessment and ethical practice.

The terms clinical reasoning and clinical decision making will be used interchangeably in this work.

COMPETENCY BASED ASSESSMENT PROGRAMS

Competency based assessment programs for CALD nurses consist of theoretical and clinical components designed to enable them to demonstrate the Australian Nursing and Midwifery Council (ANMC) National Competency Standards.

METHODOLOGY

Design

The study was conducted using a modified grounded theory approach. Grounded theory is a useful approach to explain relatively unknown situations (Taylor et al 2006).

Setting

The CALD nurses in the study were enrolled in competency based assessment programs in two universities in Melbourne, Victoria between 2005 and 2006. The programs consisted of theoretical and clinical components. The clinical component consisted of approximately forty days at an acute care clinical venue.

Sample Selection

Following ethical approval from the relevant universities and participating hospitals, a purposive sample was chosen followed by theoretical sampling. Fourteen CALD nurses, and three teachers, who were directly involved in the clinical supervision of the nurses during their placement took part ($n=17$). No payment or other inducements were offered to the volunteers. Written consent was required from all participants prior to interview and observation. All participants were assigned a pseudonym for the purpose of the study.

Data Generation

Data were collected using semi-structured in-depth audio taped interviews, member checks and observation in the clinical environment. Data collection, sampling, and analysis took place simultaneously as the study progressed. Interviews were arranged by mutual agreement. An *Aide Memoire* was used to help guide conversations, and participants were asked to expand on their responses and to check the information for accuracy (Berg 2004).

Data Analysis

The constant comparative method of open coding, axial coding and selective coding were used as an organising framework for data analysis (Miles and Huberman 1994).

Descriptive Results

Fourteen CALD nurses and three of their clinical educators participated $n = 17$. The nurses came from diverse cultural and linguistic backgrounds namely: India, China, Philippines, El Salvador and The Czechoslovakia Socialist Republic. They ranged in age from twenty five to forty five years. The clinical educators ranged in age from 35-55. The CALD nurses fell into three groups in terms of their previous professional experience regardless of their country of origin. These were:

- Specialists
- Experienced generalists
- Inexperienced generalists

The specialist group ($n = 5$) had practised in clinical specialities such as operating rooms and intensive care units for extended periods up to ten years. The experienced generalists ($n = 6$) had practiced in a variety of acute care settings, for example medical-surgical units and emergency. The inexperienced generalists ($n = 3$) were nurses who had graduated in the previous three years and had nursed in one or two clinical areas, such as coronary care and surgical units. The CALD nurses accounts (where presented) are presented as spoken and therefore reflect evidence of the use of English as a second language.

LITERATURE REVIEW

Nurse Migration

International nurse migration is an established feature of the global market (Brush and Sochalski, 2007). Williams and Balaz (2008 p.1925) point out there are well structured and asymmetrical channels for mobility that bring health care workers from 'less' to 'more' developed health care systems; amongst them discourses about the location of advanced knowledge. This according to these authors strongly mediates resulting knowledge transactions with those arriving in developed health systems seen as coming to learn rather than co-learn. However, according to Williams et al (2008) the transfer of knowledge via mobility is not an unfettered learning and knowledge transaction; but, is mediated by a range of factors including institutions and practices.

Examples of this as it applies to CALD nurses have been found in international and Australian literature; for example Obrey and Shillingford 2011; O'Brien and Ackroyd 2011; Nichols and Campbell 2010; Deegan and Simkin 2010; Deegan 2008; Hancock 2008; Allan 2007; O'Brien 2007; found that although CALD nurses recruited are highly trained and proficient in knowledge and technical skills, organisational and attitudinal barriers exist that marginalise the nurses and devalue their skills, leading to disempowerment and dissatisfaction with nursing in host nations where they have little if any input in clinical decision making processes (Smith et al 2011).

Clinical Reasoning

A nurses' ability to recognise changes in the patient's physical condition is crucial as they have meaningful interactions with patients, frequently and for longer than any other health professional; and are therefore, likely to be the first link in the causal chain between the recognition of complications and the commencement of corrective interventions (Gregory 2011; Levett-Jones et al 2010). Cue collection is the fundamental basis for clinical reasoning. That is, available patient information e.g. hand-over reports, patient history, charts, results of investigations, previous nursing and medical assessments, current clinical assessment data psychological and physical; and, knowledge recall i.e. understanding of physiology, pathophysiology, pharmacology, context of care, ethics and law. However, prejudices, stereotypes, assumptions and routines, particularly in relation to elderly patients with multiple co-morbidities and frequent admissions can impact on the type and range of cues collected. In exploring the influence of different care environments on nurses decision making Armstrong et al (1989); McCarthy (2003) and Higgins et al (2007) found that, nurses' perspectives on health and ageing ultimately shaped their reasoning pathway and how they dealt with the elderly in clinical situations; with acute care settings being least conducive to effective reasoning by nurses in relation to the elderly. The following quote from an experienced Indian nurse sheds some light on her concerns regarding the apparent clinical reasoning associated with the imposition of the hygiene routine on an elderly patient in an acute care setting:

Showering the patient most of them before they make any other assessment [sic], like if the hands are very warm and bluish or very cold and bluish, and the patient say I don't want to have a shower; they say, you will feel better when you have a shower. They will insist on taking the patient to the shower without assessing why the patient is complaining, or if the patient had the same yesterday. Yesterday she may be ready for a shower and today she may be more-weak [sic]. Angeline, PG10 Ln2

It is noted by Thompson (2003) that reliance on the phenomenon of hind-sight bias can lead clinicians to change the relative importance of influences that their judgement tells them are responsible for an event. In other words, when confronted with a priori knowledge they attempt to make sense of what they know has happened in the past, rather than working with objective data at a given time. It may be that this phenomenon could; in part at least, be responsible for the argument 'you'll feel better after you have a shower', as distinct from basing the decision for action on definitive physiological parameters in order to recognise deviations that should be addressed promptly to promote optimal patient outcomes, and avoid the potential for ethico-legal implications associated with duty of care.

According to Rytterstrom et al (2010 p.3513) routine can be viewed as a cultural activity. In a study involving qualified pool nurses Rytterstrom et al (2010) found that routines are experienced by new staff as: pragmatic, obstructive and meaningful. Pragmatic routines ensure that daily working life works, based on rational arguments and obvious intentions. Obstructive routines however, had negative consequences and were described as "nursing losing its' humanity and violating patients integrity". Examples of such routines were cited as routines associated with washing and dressing patients, and when other forms of care took place without reflection, this was viewed as potentially dangerous lacking in purpose and offensive to patients.

Meaningful routines on the other hand, involved nurses becoming one with the routine, when it felt right and meaningful to adapt to it. For example routines that did not involve direct patient care, but were helpful in terms of organising work. For regular ward staff obstructive routines were often unconscious. However, for new staff obstructive routines lead to an inner conflict between doing the right thing; i.e. "following routine and ignoring the suffering patient, under the protection of the routine" (Rytterstrom et al 2010 p.3519). Rytterstrom et al note that organisational routines are not developed from a caring perspective. Rather they are frequently focused on task completion.

The following comments were provided by nurses from the Philippines and China:

The time for patient management is different because nurses are worried to finish their showering and their bed-making these things can be done by a nurses' aid, and sometimes the quality of care was [sic] being at stake because you have to do the beds and the showering everything. Leesa, PG5: Ln3

Some CALD nurses expressed concern about not being able to contribute to decision making as they would like to as evidenced from the following quote from a nurse from the Czechoslovakia Socialist Republic:

Sometimes you think it's not right, and you get the feeling as a nurse that you would do that different, but still haven't got your registration so.... Deanne, PG4: Ln 6

Ethical Principlism

Ethical Principles are general standards of conduct that make up an ethical system i.e. a behaviour guide. The principles most commonly used are those of beneficence, non-maleficence, autonomy and justice (Johnstone 2004 p.37). In this case it appears that the ethical principal of autonomy was violated in terms of the right to refuse intervention. This according to Johnstone (2004 p.38) "requires the nurse to respect patients as dignified human beings capable of deciding what is in their best interest".

The potential for harm in this case appears to be the nurse's failure to carry out a clinical assessment on the patient to ascertain her fitness to undergo the hygiene routine; an omission that could lead to serious consequences in terms of health outcomes for the individual patient. Angeline's concern then, with enforcement of the shower routine has potentially two significant implications for professional practice. Firstly, professional judgement based on clinical evidence or, duty of care, (Staunton and Chiarella 2003); and secondly, it seems two elements of ethical principlism were called into question: autonomy and non-maleficence. Whilst the nurse's assurance that 'you will feel better after a shower' may well have an air of beneficence (Staunton and Chiarella 2003 p.29) point out that the duty to do no harm is greater than the duty to do good.

DISCUSSION AND IMPLICATIONS

Clinical reasoning is an essential component of competence, and since the 1980s various attempts have been made to organise nurses' work in a way that promotes a professional patient relationship rather than the model of the assembly line associated with task allocation (Procter 1989 p.181). Consequently, the current position in nursing practice and education appears to favour a distance from "ritual" on the basis that it is irrational and unscientific (Philpin 2002 p.114). Nonetheless, it appears that some strong elements of routine and ritual remain embedded in the action that Angeline describes.

Some CALD nurses in the study reported in this paper expressed concerns regarding what they perceived as questionable processes around the clinical decision making utilised by local nurses, and their own lack of autonomy to influence clinical decisions. In part the concerns expressed by CALD nurses may arise from divergent views of what constitutes the role of the registered nurse and how that role is executed in the acute care clinical environment. Such views are grounded in their professional culture and shape their expectations on the transferability of their knowledge and skills to clinical practice in Australia. However, many practices that CALD nurses encounter on clinical placement in Australia, are in fact cultural (McAllister et al 2007); and, culture patterns rely on unquestioned recipes, that have to be followed although they may not be fully understood (Rytterstrom et al 2010). Many examples of why nurses resort to routines in practice are evident in professional literature with the practice being viewed as both useful and obstructive. However, one of the more alarming reasons cited by Rytterstrom et al (2010) and Philpin (2002) is the routine as a protective mechanism for nurses in situations of perceived difficulty. Examples of such difficulty were found by Rytterstrom

et al with a participant indicating that to finish the routine work often removed the need to stop and see what the patient really wants, instead blaming the need to complete routine tasks. The decision was however, viewed as a matter of conscience with routines that violated the patients integrity viewed as wrong.

It is acknowledged that expert nurses may appear to carry out interventions in a way that is almost automatic and instinctive and sometimes find it difficult to explain the cognitive processes involved (Levett-Jones et al 2010). However, nurses need to make explicit their decision making processes particularly when supervising students or less experienced staff, as there is more to education than making people aware of routines and rituals (Rytterstrom et al 2010), and explaining an action can assist nurses to reflect on their own practice.

This is important in the case of CALD nurses in particular, as they will be unfamiliar with the context of care and may have difficulty interpreting cultural cues. As noted by Rytterstrom et al (2010) routine is meaningful only when nurses recognise a cultural pattern that is in harmony with their own interpretation scheme. Since many international nurses are accustomed to more autonomous roles in community based health services in their countries of origin (Smith et al 2011) adapting to, what seems to them, unreflected routine is difficult. Finally, it is noted by Henderson et al (2011 p.26) the provision of quality care is sustained through systematic continuous teaching and learning integrated with care delivery and supervision of CALD nurses providing an ideal platform for nurses to share knowledge and ideas; to co-learn, as knowledge sharing, problem-solving and reflection have been found to validate and extend practice and enhance patient care (Henderson et al 2011).

RECOMMENDATIONS

- Education that is focused on the maintenance and development of clinical knowledge should be a regular feature of staff development in all health care organisations with a particular focus on clinical assessment to support decision making.
- This could be enhanced through collaborative processes between large public health care providers and the private sector within geographical clusters to maximise the use of educational resources such as simulated learning and expert facilitation of learning activities.

LIMITATIONS

This paper was inspired by concerns expressed by a small group of CALD nurses, and is therefore not sufficient to draw generalisations around how widespread routine practices are in the health system more generally. Similarly, there is not sufficient understanding of all the contextual factors, and processes that may have impacted on the specific care decisions mentioned. Nonetheless, it can serve to remind nurses of the importance of basing clinical decisions on accurate and up-to-date clinical data and ethical principlism rather than routine imperatives. Furthermore, it could possibly serve as a basis for research into the phenomenon of ritual and the factors that drive and sustain it in the working lives of nurses, particularly in relation to clinical decision making.

CONCLUSION

The views of nurses from other systems can provide a point of discussion and reflection around the basis for current clinical decision making processes in Australia. This is because when nurses evaluate a routine as useful they are evaluating their own reason for thinking it is good or bad. In situations where all nurses are expected to act in accordance with an established cultural pattern a more reflective approach to clinical practice is called for, because competent professional practice requires complex thinking processes and rigorous application of knowledge and skill.

Whilst some routines are useful for the purpose of organising work, routines that compromise patient safety and autonomy are to be discouraged, and replaced with individual assessment, and the use of professional knowledge and judgement to recognise deviations in the patient's clinical status and balance the concepts of beneficence and non-maleficence to guide appropriate nursing interventions.

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Getting the message out - disseminating research findings to employees in large rural mining organisations

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KEY WORDS

research results, mining organisations, dissemination of research results, posters

ABSTRACT

Objective

To identify that effective dissemination of research results in large organisations is possible through novel approaches.

Setting

Two mine sites in Western Australia.

Subjects

All employees working in two large mining organisations in rural Australia.

Primary argument

To encourage employees to participate in research it is essential to disseminate findings. Currently utilised dissemination methods include conference presentations, journal articles and company reports. However these methods of dissemination do not reach all employees and often neglect to inform employees below middle management levels of the outcomes of projects. It is imperative that researchers develop strategies through a consultative process with industry to inform people of research findings. This paper argues that despite ongoing rhetoric concerning the need to disseminate research there is little evidence in the literature that describes effective methods of dissemination in large organisations.

Conclusion

Discussion during each focus group highlighted the dissatisfaction staff had regarding involvement in research projects as they rarely received any feedback or perceived any improvement. By organising a research steering group including membership by all key stakeholder groups from senior management to junior staff and identifying dissemination of results as a priority the research team developed a climate of trust. Dissemination of results through posters was a decision made by the team in response to staff dissatisfaction. This 'bottom up' approach created a climate of ownership catalysing behaviour change.

INTRODUCTION

Despite ongoing rhetoric concerning the need to disseminate research there is little evidence in the literature that describes effective methods of dissemination. Historically, research findings are disseminated through reports, journal publications and conference presentations. However these methods do not always deliver the findings to either the participants, individuals that may benefit from changing behaviours or entire workforces that might be affected by policy changes.

The majority of writing about dissemination of research is in the health literature, particularly focusing on health promotion and health prevention, demonstrating the significance of communication in effecting health behavioural change. Indeed, the literature acknowledges that research findings often lie idle, buried deep in reports, and thus not get put into practice (Waddel 2002). The issues associated with dissemination of findings are neither unique nor new with organisational barriers, issues related to secrecy of findings and lack of trust (Crosswaite and Curtice 1994).

The literature tends to describe dissemination of results in terms of translating research findings into policy or practice however, the larger issue of how to inform people within an organisation of research findings in projects they have participated in remains somewhat obscure. Indeed extant literature concerning dissemination to participants focuses on communication and theoretical frameworks rather than practical solutions. Crosswaite and Curtice (1994) assert that although communication is essential to dissemination it must meet the needs of a diverse group of people. They suggest that a research liaison officer position might bridge this gap as a dedicated person can focus on sharing knowledge with a wider audience. King et al (1998) on the other hand, found that for dissemination to be effective it must be a two way process of exchanging knowledge that occurs between the researcher and the people within an organisation. Such a two way process is particularly suited to participatory action research due to the collaboration of organisations and the research team. Abraham et al (2005) explored the issues surrounding project based dissemination and identified five strategies for effective dissemination: effective multi-level leadership and management, climate of readiness for change, availability of resources, comprehensive systems in institutions and funding bodies and funding designs that encourage and support change and dissemination. Although their project was to investigate Australian and international teaching and learning grant schemes and their outcomes, there are intrinsic messages in the report for all researchers. They describe dissemination as more than circulating information; rather it is a process of action whereby changes in behaviour and/or thinking empower individuals and organisations to integrate findings into the organisation resulting in changes in policies with outcomes demonstrating sustainable influences to practice over a period of time. This concept of dissemination builds on King et al's (1998) suggestion that dissemination is a two way process by arguing that dissemination also involves change within individuals or organisations.

DISCUSSION

The initial phase of this large Australian Research Council funded grant involved focus groups to examine the occupational health and safety dimensions of older workers. During the focus groups however it became evident that a large number of participants were reticent to be involved in the project as they were dissatisfied with the lack of dissemination of results from previous research studies which had left them wondering whether their contributions were valued and what the outcomes of the studies had been. The research team felt that these were valid comments that needed to be addressed in order to garner the ongoing participation and support of staff from both sites throughout the three phases of this four year project. A research steering group was formed and was comprised of a cross section of staff representatives from both organisations and the research team. The aim of this group was to provide guidance for the project.

The group debated the question: *How do researchers inform large groups of people in participating organisations located in rural Australia, all with different levels of literacy, interest and motivation, of the results of a research project while maintaining confidentiality and rigour?*

Input from the organisational members of this group was significant as they had an insider understanding of the respective organisational cultures and their involvement enhanced ownership and problem solving of the issue.

Due to the diversity of employees at both organisations it was acknowledged that a report would not be written and that a two pronged approach would reach most people at all levels within the organisations. It was decided that dissemination via posters and company newsletter would be trialled and if it proved successful this would be continued for the duration of the project.

Poster presentation was an innovative and novel approach to dissemination. A search of the literature revealed some discussion of the use of posters as a method of dissemination however these were mostly aimed at poster presentations at conferences within a collegial environment rather than to people or workplaces that have been involved in the research (Sherbinski and Stroup 1992). Thus it was found that although dissemination was viewed as being an important outcome for any project dissemination to people outside professional interest groups and peers has attracted little discussion in the literature.

Poster presentation differed significantly from that of a professional poster that would be presented in a collegial setting. The research steering committee discussed the results and poster presentation and included data guided by advice from this group. It was decided that as the organisations had predominantly male employees and the setting was mining, that graphs depicting results would be an acceptable visual representation of findings. After a lot of deliberation and practice the final poster consisted of three columns. The first column provided a brief overview of the project and a background to why it was important. This was written in lay terms using large font size. It was felt it was essential that employees were encouraged to stop and read the poster so large amounts of text were considered to be a deterrent. The second column contained the results which were depicted in graphs above which were written the questions employees had been asked. Below each graph was a single sentence explaining the result. The final column was simply titled 'where to next' and provided a brief description of the next phase of the project and contact details of the research team. The position of the posters within the organisations was inherent to success so it was decided to place a copy in the central meeting rooms and also in selected staff tea rooms.

A second strategy was reporting the results in the company newsletters. This was done in two ways – firstly a small narrative explaining what was happening and who the research teams were and secondly by placing a copy of the poster in the newsletter. Informal feedback suggested most of the male employees did not read the newsletter however the wives and partners did read it. This was evident in the final phase of the project which involved an intervention for both employee and partner as a number of partners told us they had read about it in the newsletter.

CONCLUSION

Presenting research findings in this manner is not without its problems. Prior to release all posters and newsletter articles needed to be approved by senior management. Senior management were initially reticent for findings to be presented to employees as they were concerned that this might create expectations by employees that any identified issues would be resolved.

Anecdotal feedback from employees was that the posters were a successful method of disseminating research

findings. Employees found them easy to read and felt that they were being kept informed about the project. Indeed this appeared to facilitate some employees taking ownership of the project as they spoke of 'our research project'. Furthermore the research team had anecdotal evidence that employees were discussing findings at work and in social settings.

The newsletter also proved a successful method of dissemination. In one organisation a hard copy of the newsletter was posted to the family address. It is important to include partners especially if the projects are health related and being carried out in male dominated industries.

The success of both strategies lay in framing the research results in an appropriate way for the targeted population and the support of the organisations in allowing posters to be placed in visible areas. The outcome from the posters was that most of the staff had an understanding of the research project and felt involved in the project. The research staff were not unknown to the staff as they had seen their names on the posters and in the newsletter. Additionally there was a sense that the research was 'real' and not just theoretical as the practical applications of results could be perceived through organisational changes that were made. Managing research projects in large organisations involves dissemination of results. This project has identified two relatively inexpensive methods of disseminating results to large populations in shift based environments over a four year period.

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Career progression – the views of Queensland's nurses

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KEY WORDS

Nurses, career progression, career choice, survey

ABSTRACT

Objectives

To inform policy through determination of the views of Queensland nurses on career progression.

Design

A quantitative cross-sectional cohort design with mailed survey.

Setting

Financial members of the Queensland Nurses' Union.

Main outcome measures

Extent of the relationship between opportunity for career progression in nursing with turnover and retention.

Results

A majority (54.4%) of the 1365 respondents were satisfied with their career progression. Only 11.6% were dissatisfied. Satisfaction was not related to length of time in nursing, but did increase among nurses enrolled in further education programs. Dissatisfaction was related to four themes: lack of support to advance knowledge; lack of opportunities for promotion; number of career options; and costs associated with advancement. A quarter of the nurses were contemplating a move within nursing in the next year and most of these nurses (62%) indicated that the move was for the purpose of career advancement. One in six nurses were contemplating leaving nursing altogether; however only 12.8% of those cited lack of career as the factor for intended departure. Results continued the trend seen in previous surveys over the last decade of a small but significant reduction in the perception that career prospects in nursing were limited.

Conclusion

Although the perception that there are limitations to career advancement in nursing has reduced in the last decade, there is still room for improvement. Lack of career progression remains a concern of nurses; however this is not generally manifested in an intention to leave nursing. Rather, nurses are prepared to consider moves within nursing to further their careers.

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INTRODUCTION

The Australian nursing workforce continues to be undersupplied. An ageing workforce, relative attractiveness of the profession and alternative career opportunities are principal factors to supply; while an ageing population with greater expectations of health services is increasing demand.

Caring is the principal driver for becoming a nurse (Price 2009; Williams et al 2009) and opportunities for career progression may not be the primary influence at this stage of a career. For example, 'prospects for career progression' was only ranked tenth out of seventeen factors for entering nursing by students nurses (Eley et al 2010). Nevertheless, in the USA increase in nurse enrolment has been in part attributed to attractive options for career changes (Raines and Tagliaireni 2008).

Career progression is one of the intrinsic conditions related to job satisfaction (Herzberg et al 1959) and in the UK creation of innovative roles in nursing is believed to have improved career prospects and with that increased job satisfaction (Collins et al 2000). Indeed a poll of nurses from around the world found that the United Kingdom was the third best place to work as a nurse because of its good career progression (Nursing Times 2007).

Ward et al (2003) noted that Australian nursing students had a limited perception of career paths. Nearly a decade later on-line commentary suggests that knowledge may still be limited, with nurses not understanding the choices they have available to them to take their nursing career to the next level (HealthCareer.com.au 2011). In a recent Australian study of primary care nurses, 85 per cent stated they did not have a career pathway within their organisation (Parker et al 2011).

In 2010 a survey of nurses in Queensland was undertaken through the membership of their industrial body, the Queensland Nurses' Union (QNU). The survey offered the opportunity to gain insight into whether career progression is an important component of turnover and attrition among nurses and what they consider are barriers to career progression.

METHODS

Participants

Participants were financial members of the QNU working in the public (government funded acute and community health nursing), private (private and not-for-profit funded acute and domiciliary nursing) and aged care (both public and privately funded) sectors. Surveys were mailed out in October 2010 to 1,250 randomly selected members in each sector (3,750 in total) and reminders were sent two and four weeks after the initial mail-out to non-respondents. Completed questionnaires were returned directly to the research team.

Questionnaire

The questionnaire had been used in 2001, 2004 and 2007 (Hegney et al 2006, 2010; Eley et al 2007); however in 2010 four new questions related to career progression were included.

1. *How satisfied are you with your career progression opportunities in nursing?*
2. *Are you contemplating a change within your nursing career in the next 12 months but still will be working in nursing?*
3. *Are you contemplating leaving nursing career in the next 12 months?*

Question 1 offered a 5-point Likert scale from very satisfied to very dissatisfied. Nurses responding very dissatisfied or dissatisfied were requested to provide a free text explanation. For both questions 2 and 3

response was either Yes or No. Yes respondents were asked to explain what the change would be and why?

4. What are the current barriers to career advancement in nursing?

Five barriers identified through consultation with the QNU and informed by the literature were offered. A free text box allowed additional barriers to be added.

A fifth question had been asked in all four surveys:

5. The question took the form of a semantic differential seven-point rating scale. The opposing statements were "Career prospects are good" and "Career prospects are limited" with a scale from extremely good to extremely limited.

Analysis

Data from the public, private and aged care sectors were compared on an item by item basis, using appropriate descriptive and inferential statistical tools (PASW Statistics v18). A level of .05% was used to support inferences for Chi-square, ANOVA, Z and t tests. Free text responses were analysed thematically using the framework of Pope et al (2000). Inter-coder reliability was checked during shared coding sessions to ensure consensus of themes and integrity of coding. The study was approved by the University Human Research and Ethics Committee.

FINDINGS

The response rate was 36.4% (n=1365) and returns within the three sectors were 38.9% aged care, 37.2% private and 33.1% public.

Respondents were predominately female (95%) between 40 and 59 years of age (65%). Assistants in Nursing (AIN; also known as personal carers or personal care assistants), Enrolled Nurses (EN) and Registered Nurses (RN) comprised 42%, 16% and 42%, respectively, with over 90% of the AIN's employed in the Aged Care sector.

Q1. How satisfied are you with your career progression opportunities?

Fifty-four per cent of nurses indicated they were either very satisfied or satisfied with their career progression (table 1) and there was no difference in response among the three sectors ($\chi^2 = 11.963$, df = 8, p = .153).

Table 1: Satisfaction with career progression opportunities.

		Sector			
		Aged Care	Private	Public	Total
Very satisfied	Count	53	36	29	118
	Per cent within Sector	11.3	8.0	7.3	8.9
Satisfied	Count	215	209	176	600
	Per cent within Sector	46.0	46.2	44.0	45.5
Neither	Count	145	149	125	419
	Per cent within Sector	31.0	33.0	31.3	31.8
Dissatisfied	Count	42	45	51	138
	Per cent within Sector	9.0	10.0	12.8	10.5
Very dissatisfied	Count	12	13	19	44
	Per cent within Sector	2.6	2.9	4.8	3.3
Total	Count	467	452	400	1319
	Per cent within Sector	100.0	100.0	100.0	100.0

The 182 (13.8%) nurses who indicated that they were *dissatisfied* or *very dissatisfied* with their career progression expanded on their answers. The free text data were analysed to produce themes (table 2).

Table 2: Themes related to dissatisfaction in career advancement.

Theme	Aged care		Private		Public		Total	
	N	%	N	%	N	%	N	%
No employer support to advance knowledge	18	35.2	12	21.0	27	43.5	57	33.5
Lack or number of career options	2	3.9	17	29.8	8	12.9	27	15.8
Not able to be upgraded/promoted	1	1.9	11	19.2	10	16.1	22	12.9
Cost of and funding for advancement	10	19.6	5	8.7	6	9.6	21	12.3
Lack of information	4	7.8	1	1.7	2	3.2	7	4.1
Education	7	13.7	0	0	0	0	7	4.1
Lack of support by other nurses	3	5.8	1	1.7	2	3.2	6	3.5
Unable to use qualifications in work area	0	0	3	5.2	3	4.8	6	3.5
Experience	2	3.9	3	5.2	1	1.6	6	3.5
Lack of time for study	2	3.9	2	3.5	0	0	4	2.3
Number of training programs available	0	0	2	3.5	2	3.2	4	2.3
Not able to gain employment	2	3.9	0	0	1	1.6	3	1.7
Total	51	99.6	57	99.5	62	99.7	170	99.5

Lack of support by the employer was an issue in all sectors and it was the major factor in the public sector. Major themes in the aged care and private sectors were financial considerations and lack of career options, respectively. The top four themes accounted for 74.5% of the responses, and are detailed below.

Not supported at work

The respondents noted mostly that their employer did not support their professional development and this limited their ability to progress.

- *Graduates receive the majority of support these days and we are left to flounder. (private)*
- *Although there is a discourse that encourages development I thought I would have more support. (public)*
- *There's always an excuse why I can't attend courses. (public)*
- *Company tells us they will help us with future career progression then tell us there is none going at the moment. (aged care)*

Lack of career options

This, the second highest theme, was the main theme from the private sector. AIN's and EN's believed they had no career options, while RN's were concerned about the lack of a clinical career pathways and opportunities.

- *There is no career progression for AIN or EN. (public)*
- *Only progression is in non-clinical management ... (public)*
- *...no advanced practitioner roles or nurse practitioner roles. (public)*
- *Further progression would have to involve outside the private workplace such as community aged care or disability work. (private)*

Not able to be upgraded/promoted

An inability to gain promotion at work was also a reoccurring theme, mentioned almost equally by nurses in the private and public sectors.

- *Very limited Level 2 placements available. (private)*
- *There is no opportunity for this at my workplace. (private)*
- *Never given the opportunity to relieve at higher level roles. (public)*
- *Limited positions available. No provision for “personal upgrades”. (aged care)*

Within this theme the current criteria for promotion was also criticised.

- *The nursing hierarchy is based on seniority or length of service. This inhibits initiative and motivation for new staff who may show leadership skills. (public)*

Cost/funding

The cost of education and the lack of financial support by their employer were mentioned more often within the aged care sector.

- *It's all university training, expense ... employees must study at their own time and expense. (aged care)*
- *There are scholarships available for RN, but not EN courses. (aged care)*
- *I wish I could study ... but I do not have the upfront money to do this. (public)*
- *Employer does not pay for training. We have offered to pay half and they walked away. (private)*
- *Facility lacks funding for further educational opportunities for staff. (private)*

Q2. Are you contemplating a change within your nursing career in the next 12 months but still will be working in nursing?

Nearly a quarter of the nurses indicated they were contemplating a change in their nursing career within nursing in the next 12 months (table 3). There was no sector effect ($\chi^2 = 4.063$, $df = 2$, $p = .131$).

Table 3: Contemplating a change within nursing in the next 12 months

Contemplating change		Sector			Total
		Aged Care	Private	Public	
Yes	Count	103	100	110	313
	Per cent within Sector	22.3	22.3	27.4	23.9
No	Count	359	349	291	999
	Per cent within Sector	77.7	77.7	72.6	76.1
Total	Count	462	449	401	1312
	Per cent within Sector	100.0	100.0	100.0	100.0

The majority (62.2%) of the 313 nurses who responded “yes” indicated they were making a change for the purpose of career advancement. Others were changing role without career advancement to provide time for formal study:

- *I hope that once I have completed a Certificate IV in Training and Assessment I will obtain a position where I can use it. (aged care)*
- *I need a new direction in my career. I'm looking to take on a degree course at university and still work too. (public)*
- *I have applied to university and become a RN as I feel this would make me more employable and give me more career opportunities. (private)*

Q3. Are you contemplating leaving nursing in the next 12 months?

One in six nurses (n=210) indicated that they were contemplating leaving nursing in the next year. There were no main sector differences ($\chi^2 = 2.802$, $df = 2$, $p = .246$). The principal reasons for leaving the profession included retirement, starting a family, ill-health, burn out, disillusionment, and financial factors. Only 27 of the 210 respondents (12.8%) indicated that the reason was to start an alternative career. No-one offered the reason that there were no career opportunities for them in nursing.

Q4. What are the current barriers to career advancement in nursing?

The survey offered five barriers to career advancement (table 4). Respondents selected most of these choices in similar proportions both within and among sectors. The exception was the cap on the number of promotional places where fewer aged care sector nurses made this selection ($\chi^2 = 34.547$, $df = 2$, $p = .001$).

Personal issues of health and family commitments, plus age, language and work visa status were offered as additional barriers. The principal employment-related barriers were those which had been identified previously as factors contributing to dissatisfaction; namely the lack of access to training and cost for further education.

Table 4: Barriers to career advancement

Barrier		Sector		
		Aged Care	Private	Public
No opportunities to advance in my clinical stream	Count	74	81	65
	Per cent within Sector	15.6%	17.9%	16.2%
Cap on the number of promotional positions available	Count	56	109	107
	Per cent within Sector	11.8%	24.1%	26.6%
No other career opportunities within nursing interest me	Count	54	81	60
	Per cent within Sector	11.4%	17.9%	14.9%
Loss of earnings (shift penalties)	Count	88	68	56
	Per cent within Sector	18.6%	15.0%	13.9%
My responsibilities outside of work	Count	69	82	65
	Per cent within Sector	14.6%	18.1%	16.2%
None of the above	Count	154	120	100
	Per cent within Sector	32.6%	26.5%	24.9%

Q5. Career prospects are good versus Career prospects are limited

There were no sector effects within each year (e.g. 2010 across sectors $\chi^2 = 14.174$, $df = 12$, $p = .290$) and responses to the statement for each year are presented in table 5 for combined sectors. Analysis also indicated that the perceptions of career prospects did not differ among AIN (n=690), EN (n=340) and RN (n=3767; $\chi^2 = 1.676$, $df = 4$, $p = .795$).

However among years there was a highly significant effect ($\chi^2 = 93.6$, $df = 18$, $p < .001$) with the main effect a decrease in the negative responses. Responses in the quite limited and extremely limited categories reduced each year from 29.7% in 2001 to 20.6% in 2010.

The 200 nurses who were formally enrolled in a course leading to a certificate, diploma or degree in a nursing area were more likely to be very satisfied with their career progression (19.5% versus 6.9%, $\chi^2 = 47.551$, $df = 4$, $p < .001$) and believe that nursing offered good prospects (extremely or quite satisfied 31.4% versus 22.5%; $\chi^2 = 12.249$, $df = 6$, $p = .05$; mean 3.63 vs 3.88, $F = 4.379$, $df = 1$, $p = .037$).

Table 5: Across year comparison of statements about career prospects

Nursing offers good career prospects?		Year of survey			
		2001	2004	2007	2010
Extremely good	Count	44	46	47	46
	Per cent within year	3.2	3.5	4.8	3.5
Quite good	Count	293	258	236	265
	Per cent within year	21.1	19.5	24.0	20.2
Slightly good	Count	258	280	199	283
	Per cent within year	18.5	21.1	20.2	21.6
Neither	Count	232	213	173	327
	Per cent within year	16.7	16.1	17.6	24.9
Slightly limited	Count	151	133	91	121
	Per cent within year	10.9	10.0	9.2	9.2
Quite limited	Count	231	228	149	187
	Per cent within year	16.6	17.2	15.1	14.2
Extremely limited	Count	182	167	90	84
	Per cent within year	13.1	12.6	9.1	6.4
Total	Count	1391	1325	985	1313
	Per cent within year	100.0	100.0	100.0	100.0

The view that career prospects in nursing were good were reduced with the length of time in nursing ($\chi^2=48.008$, $df = 12$, $p<.001$), with 56.6% of nurses with 1-10 years of experience positive about career prospects, as compared to 39.4% of those with more years of experience. However satisfaction with their own career progression was not affected ($\chi^2 = 7.293$, $df = 8$, $p = .505$) between the two lengths of time in nursing, with 57.4% and 54.0% satisfied for the same time periods.

DISCUSSION

Overall the results demonstrate that career progression in nursing affects turnover with many nurses contemplating changing jobs for the purpose of advancement. Although lack of opportunities for career progression was a cause of dissatisfaction for a small percentage of nurses it was encouraging that the numbers citing this as a reason for leaving the profession were low. This is an extremely interesting finding as nursing students had indicated previously that lack of career progression would be the main factor to leave nursing (Eley et al 2010).

The results may suggest that once employed within the workforce both education and job opportunities become more apparent. This is borne out by the fact that nurses who were studying for further qualifications were both more satisfied with their career progression and career prospects than those who were not. This latter point is consistent with data collected from nurses during our previous studies in this cohort of nurses.

Registered nurses and midwives are required to participate in at least 20 hours of professional development each year (Nursing and Midwifery Board of Australia 2010) and 92 per cent of Queensland nurses surveyed indicated that there was access to training or professional development in their workplace (Eley et al 2010). Whether this mandatory professional development is accompanied by increased job opportunities within Australia as reported to have occurred in the USA and UK (Collins et al 2000; Raines and Tagliaireni 2008) is not known and deserves further study. However, supporting the increase in opportunities was the fact that nurses newer to the profession were more likely to view nursing career prospects as good.

Furthermore comparison across our four studies over the last decade indicates that the perceived limitation of nursing as a career has been reduced. Although the mean value (3.84) for the statement that *career prospects are good* still fell short of neutral (a mean of 4.0) the proportion of nurses who were negative in their opinion declined by almost 10% from 2001 to 2010. What was particularly interesting and somewhat of a surprise is that the perception of career prospects in nursing did not differ either between sectors or among AIN's, EN's and RN's.

The nurses who expressed reasons for dissatisfaction in their own career progression attributed this to barriers that are probably inter-connected. For example, many who felt that management did not support their advancement also believed there were insufficient positions available for progression. Interestingly few nurses in this study reported a lack of time, or a lack of knowledge of what was available, as a barrier to continuing professional education.

CONCLUSIONS

The study has identified barriers which, if addressed, could improve job satisfaction and increase retention. Turnover of nurses is high but for the reasons of promotion, advancement or personal development and although a quarter of nurses intend leaving the profession, relatively few are doing so for lack of career opportunities. There has been an improvement in perception of the value of nursing as a career over the last decade and the value of nursing is greatest in those who are younger to the profession or undertaking professional development. Career advancement for some is thwarted by lack of workplace support.

Limitations

QNU membership is 67% of all the regulated nurses (i.e. EN, RN) in Queensland (AIHW 2008). Approximately 50% of the unregulated AIN workforce are members of the QNU (National Review of Nursing Education, 2002). These figures strongly support the contention that QNU members represent the majority of the nursing workforce. Older nurses and those from the private and aged care sectors were relatively over-represented; nevertheless we believe the effect of bias is insufficient to make a substantive impact upon the findings of the studies.

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Career choices and destinations of rural nursing students undertaking single and double degrees in nursing

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KEY WORDS

Nursing education, double degrees, rural career preferences

ABSTRACT

Objectives

To identify and compare the location and career preferences of students enrolled in single and transdisciplinary double degrees in a Bachelor of Nursing program at a rural university.

To understand what influences and motivates students to enrol in a double degree program that includes nursing.

Design

A cross-sectional cohort study using a semi structured survey.

Setting

Charles Sturt University, Bathurst, New South Wales, Australia.

Subjects

209 undergraduate students in all years of the Bachelor of Nursing (BN), Bachelor of Nursing/Bachelor of Clinical Practice (Paramedic) (BN/BCP), and Bachelor of Nursing/Bachelor of Early Childhood Teaching (BN/BECT) programs.

Main outcome measures

Demographics of participants; reasons double degree students enrolled in a nursing program; career location and career discipline preferences.

Results

In 2008 the majority (70%) of students in all three groups were from rural areas, but double degree students came from a higher socio-economic background, were younger and were more likely to be male than single degree nursing students. They also had different motivating factors for enrolling and many did not prefer nursing as a career. 40% of BN, 45% of BN/BECT students and 28% of BN/BCP students preferred to work in a rural location for their graduate year.

Conclusions

Students undertaking this rural based double degree nursing program are different to single degree nursing students in a number of important areas. The lack of interest in a nursing career and a rural location by over half of these students is concerning. Targeted strategies are needed to reverse this loss of potential nursing graduates.

INTRODUCTION

Transdisciplinary undergraduate double degrees (DDs) involving nursing were introduced at a time (2002-2008) when the Australia Federal Government had increased the number of nursing funded places to universities (Authors 2010; Drury et al 2008). This followed the National Review into Nursing Education's (2002) recommendation that inter-disciplinary and cross-professional approaches to nurse education and practice be encouraged. By 2007 in Australia over one third of nursing students were studying via a DD mode (Preston 2009).

DD programs which combined nursing and pre-hospital care/paramedics (BN/BCP) and nursing and early childhood teaching (BN/BECT) commenced at Charles Sturt University (CSU), a regional university in Bathurst, Australia in 2002. One attraction for students was the ability to complete two three-year degrees in a four year period. The DDs were an attempt by a rural university to encourage more students, especially school leavers, into nursing to help sustain the rural workforce. Evidence suggests that demographic background and exposure to rural clinical experiences can positively influence nursing/medical students' choices of career, career destination and reasons for remaining in a rural area (Taylor et al 2009; Nugent et al 2004).

Literature from overseas (Buchan and Aiken 2008; ICN 2008) and Australia (Preston 2009; Gaynor et al 2007) continues to demonstrate a shortage of nurses. The numbers of nurses being educated are not enough to meet future workforce demands, and rural areas are harder hit by these shortages (Bushy and Leipert 2005; Ryan-Nicholls 2004).

Numerous studies in Australia (Stevens 2011; McCann et al 2010; Happell 2003) and overseas (Kloster et al 2007; Stuhlmiller 2006) have investigated the career choices and preferences of Bachelor of Nursing (BN) (or equivalent) students. Earlier studies (Happell 2002; 1999; Stevens and Dulhunty 1997; 1992) showed that nursing career specialty preferences did not change significantly during a degree. Yet, later studies (Stevens 2011; Stuhlmiller 2006) demonstrate that positive clinical experiences impact on career preference decisions. It is unknown however, if these latter factors are equally relevant for nursing students in a DD program. Few studies have investigated DD students (Russell et al 2008; Batson et al 2002), and none have examined their career and or location preferences (Authors 2010).

As of 2010, ten cohorts (approximately 180 DD nursing students) have graduated from CSU; however, little is known about these students and whether they intend to take up a nursing career and if this will be in a rural location.

The aims of this study were to identify and compare the location and career preferences of students enrolled in single and DD programs in nursing at a rural university, and to gain an understanding of what influenced and motivated these students to enrol in nursing.

METHODOLOGY

In 2008 a cross-sectional cohort study, utilising a semi structured questionnaire was carried out. Ethical approval was gained from CSU Ethics in Human Research Committee. To ensure confidentiality questionnaires were numerically coded. The questionnaires gathered demographic and background information, and student's initial career preference at commencement of their program. Open-ended questions asked students to explain why they chose their study program, which discipline areas they expected to work in and where they expected to work after graduation.

Participants

All enrolled undergraduate nursing students in the three-year BN and four-year BN/BCP and BN/BECT programs were invited to participate. International students were excluded. The overall response rate across all years was 71.6% ($n = 209$), with 77 single degree BNs of a possible 121 (63.6% participation), 31 BN/BECTs (100%) and 101 BN/BCPs of a total 139 (72.6%).

Data Analysis

Data were analysed using SPSS (Version 17, SPSS Inc., Chicago, IL, USA). Group comparisons were conducted using chi square (χ^2) tests and analysis of variance (anova). The textual data from the open ended questions were reviewed extensively, categorised, and then further collapsed to generate major categories.

FINDINGS

Demographic characteristics

The characteristics of the three cohorts of students are compared and summarised in table 1. Students' ages on enrolment ranged from 18 – 47 years. Students in the single BN were older than students in both the BN/BECT and BN/BCP degrees. A cut-off age of 19 years was used to estimate numbers of students who entered university straight from school. The BN/BCPs had the highest percent of school leavers (74.3%), BNs the lowest percent (48.1%), and the BN/BECTs were mid-way (58.1%).

The majority (88.3%) of students were female. The BN/BECT group had no male students, and the BN group had 13%. The BN/BCP group had the highest percentage of males (34.6%), which reflects the traditional profile of males in paramedicine (Reynolds and O'Donnell 2009).

Rural background

Students were gauged as being from a rural background if they had lived in a rural area for more than eight years ([AMWAC 2003] definition of rural background) and had a rural home address according to the Rural, Remote, Metropolitan Areas (RRMA) classification system (AIHW 2004). The majority (70.3%) of students had a rural background, with single degree BNs having the highest proportion (79.2%), BN/BCPs having the lowest (63.4%), and the BN/BECTs being mid-way (71.0%). The differences between the three groups achieved a marginal level of significance.

Table 1: Demographic characteristics of all single and DD nursing students in 2008

	BN (single) cohort ($n = 77$)	BN/BECT (DD) cohort ($n = 31$)	BN/BCP (DD) cohort ($n = 101$)	Overall study participants ($n = 209$)
Age on enrolment † Mean (SD)	23.4 (SD 7.5)*, **	19.8 (SD 1.8)**	19.7 (SD 2.5)*	21.1 (SD 5.2)
School leavers ‡ 18 -19 years n (%)	37 (48.1%) *	18 (58.1%)	75 (74.3%)*	209 (62.2%)
Male § n (%)	9 (13.0%)*	0 (0.0%)**	26 (34.6%)*, **	35 (16.7%)
Rural background ¶ > 8 years n (%)	61 (79.2%)	22 (71.0%)	64 (63.4%)	209 (70.3%)

*, ** Statistically significant differences at $p < 0.05$

† Significant differences between BN and BN/BECT group and BN and BN/BCP group $F(2, 206) = 13.3$ $p < 0.01$

‡ Significant differences between BN and BN/BCP group $\chi^2(2, 206) = 13.0$ $p < 0.01$

§ Significant differences between BN/BCP group and BN group and BN/BCP and BN/BECT group $\chi^2(1, 209) = 13.5$ $p < 0.01$

¶ Marginal differences between groups $\chi^2(2, 209) = 5.3$ $p < 0.07$

Socio-economic background

Students' socio-economic background was recorded according to criteria used in the Longitudinal Study of Australian Youth (Dockery and Barns 2005). Students reported on their fathers' and mothers' professional occupation status on a scale of '1' (lowest; e.g. no job) to '10' (highest; e.g. lawyer) and educational level on a scale of '1' (lowest; completed primary school) to '6' (highest; completed an undergraduate degree). Results in table 2 demonstrate significant differences in three of the four comparisons. In general, students in the single BN degree were from a lower socio-economic background than DD students. The BN students' fathers had a lower professional job status compared to the BN/BCPs' and BN/BECTs', the same was true of mothers' occupational status with the BN group being lower than the BN/BCPs and BN/BECTs.

In terms of the fathers' level of education, the BNs reported a lower level of educational attainment than the BN/BCPs but not the BN/BECTs. There were no differences in the mothers' educational level.

Table 2: Socio-economic background of single and double degree students

	Single degree BN group (n = 77) Mean (S/D)	DD BN/BECT group (n = 31) Mean (S/D)	DD BN/BCP group (n = 101) Mean (S/D)	Overall study participants (n = 209) Mean (S/D)
Fathers occupation level†	6.1 (3.2)*,**	7.9 (2.1)*	7.5 (2.8)**	7.1 (3.0)
Mothers occupation level‡	6.3 (3.1)*,**	7.9 (2.5)*	7.5 (2.7)**	7.1 (2.9)
Fathers education § (Bachelor level)	3.7 (1.7)*	3.6 (1.7)	4.4 (1.6)*	4.0 (1.7)
Mothers education (Bachelor level)	3.7 (1.8)	4.07 (1.7)	4.2 (1.7)	4.0 (1.7)

*,** Statistically significant differences at $p < 0.05$

† Significant differences between BN and BN/BECT group and BN and BN/BCP group $F(2, 188) = 5.8$ $p < 0.01$

‡ Significant differences between BN and BN/BECT group and BN and BN/BCP group $F(2, 196) = 4.9$ $p < 0.01$

§ Significant differences at $p < 0.05$ between BN/BCP group and BN group $F(2, 188) = 4.4$ $p < 0.01$

RURAL AND CAREER ASPIRATIONS

Rural location work preferences

Students were asked to indicate their preferred graduate year location ('rural', 'metropolitan', 'undecided' and 'overseas'). Only 70 students (33.5% of the sample) expected to work in a rural area, but the proportions who selected rural vs metropolitan locations differed by degree (see table 3). Students in the BN (41.6%) and BN/BECT (45.2%) had the highest percent of students interested in a rural location while the lowest group was the BN/BCP (23.8%) group. There were 24.4% of students who were 'undecided' and 8.6% who wanted to work overseas, with similar proportions across single and double degrees.

Career preferences for nursing

Students' responses to the open-ended question about the career they preferred on enrolment primarily fell into three discipline areas: nursing, early childhood teaching, paramedic. Two additional categories were formed: 'both' for those students who identified more than one discipline and 'other' for students who planned a degree change or whose current degree was not their first choice. Results (table 3) showed significant differences as the majority of BN students (88.3%) chose nursing but only a very small proportion of BN/BCP students (9.9%) did. The BN/BECT students (48.4%) were midway between the two. Surprisingly, a relatively small proportion of DD students indicated that they expected to work in a career involving 'both' disciplines (BN/BECT 16.1%, BN/BCP 9.9%). A small percent of students chose 'other' with little variation between groups (BN 9.1%, BN/BECT 3.2%, BN/BCP 4.8%).

Table 3: Rural and career choices of single and double degree nursing students

	Single degree BN group (n = 77)	DD BN/BECT group (n = 31)	DD BN/BCP group (n = 101)	Overall study participants (n = 209)
<i>Rural location work preferences</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
Rural or rural and remote	32 (41.6%)*	14 (45.2%)*	24 (23.8%)*, **	70 (33.5%)
Metropolitan	18 (23.4%)*	8 (25.8%)*	44 (43.6%)*	70 (33.5%)
Undecided	19 (24.7%)	6 (19.4%)	26 (25.7%)	51 (24.4%)
Overseas	8 (10.4%)	3 (9.7%)	7 (6.9%)	18 (8.6%)
<i>Career preferences for nursing</i>				
Nursing	68 (88.3%)*, **	15 (48.4%)*	10 (9.9%)*	93 (44.5%)
Early Childhood Teaching	1 (1.3%)	10 (32.3%)	0 (0.0%)	11 (5.3%)
Paramedicine	1 (1.3%)	0 (0.0%)	79 (78.2%)	80 (38.3%)
Both	n/a	5 (16.1%)	10 (9.9%)	15 (7.2%)
Other discipline	7 (9.1%)	1 (3.2%)	2 (2%)	10 (4.8%)

*, ** Statistically significant differences at $p < 0.05$

† The percent of students who selected rural vs metropolitan locations differed significantly between degrees $X^2 (6, 209) = 12.6$ $p < 0.05$

‡ The percent of students who chose a nursing career differed significantly between degrees $X^2 (8, 209) = 207.3$, $p < 0.01$

Career motivations and influences

Students responded to a series of open-ended questions about the reasons why they chose their program of study, what they found appealing about their career choice, and what or who had influenced their career decision. Results are summarised in detail in tables 4, 5, 6.

Why did students choose their programs of study?

Four categories emerged as to why students chose their program: 'interested in one discipline area only' (e.g. nursing, early childhood teaching or paramedicine); 'improved career choices'; 'pragmatic reasons'; 'employment advantages/ security'. Results show significant differences in the distribution of students' answers by type of degree. There were more BN students (67.1%) who were 'interested in the one discipline area only' than BN/BECTs (3.4%) and BN/BCPs (31%). More BN/BECTs (55.2%) chose their program for 'improved career choices' than BNs (7.9%) and BN/BCPs (36%). Similar numbers of students in single and double degrees identified 'pragmatic reasons' or 'employment security'.

Table 4: Why did single and double degree students choose their programs of study?

	Single degree BN group (n = 77)	DD BN/BECT group (n = 31)	DD BN/BCP group (n = 101)	Overall study participants average (n = 209)
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
Interested in one discipline area only†	51 (67.1%)*	1 (3.4%)*	31 (31.0%)*	83 (40.5%)
Improved career choices ‡	6 (7.9%)*	16 (55.2%)*	36 (36.0%)	58 (28.3%)
Employment advantages, security	13 (17.1%)	7 (24.1%)	12 (12.0%)	32 (15.6%)
Pragmatic, early entry, low UAI	6 (7.9%)	5 (17.2%)	21 (21.0%)	32 (15.6%)

* Statistically significant differences at $p < 0.05$

†,‡ There were significant differences in the distribution of students answers by type of degree in 'interest in one discipline area only' and 'improved career choices' $X^2 (6, 205) = 53.1$ $p < 0.01$

What did students find appealing in their career choice?

Four categories were identified: 'exciting and different'; 'personal satisfaction and enjoyment'; 'altruism'; 'personal interest/self gains'. The results showed significant differences between groups. A higher percent of BN/BCPs (54.5%) saw their career choice as 'exciting and different' than BNs (2.8%) and BN/BECTs (3.4%). In contrast more of the BN/BECTs (48.3%) felt that 'personal satisfaction and enjoyment' was an appealing aspect of their career choice than BNs (34.7%) and BN/BCPs (10.9%). The BNs were more likely to mention 'altruistic' reasons (45.8%) than the BN/BECTs (31%) and the BN/BCPs (27.7%). 'Personal interest/self gains' was identified by a similar percentage of students in each of the groups (6.9 to 17.2%).

Table 5: What did single and double degree students find appealing in their career choice

	Single degree BN group (n = 77) n %	DD BN/BECT group (n = 31) n %	DD BN/BCP group (n = 101) n %	Overall study participants (n = 209) n %
Exciting workplace †	2 (2.8%)*	1 (3.4%)*	55 (54.5%)*, **	58 (28.7%)
Personal satisfaction, enjoyment ‡	25 (34.7%)*	14 (48.3%)*	11 (10.9%)*, **	50 (24.8%)
Altruism §	33 (45.8%)	9 (31.0%)	28 (27.7%)	70 (34.7%)
Personal interest/self gains	12 (16.7%)	5 (17.2%)	7 (6.9%)	24 (11.9%)

*, ** Statistically significant differences at $p < 0.05$

†, ‡, § There were significant differences between the degree groups in the categories of 'exciting workplace', 'personal satisfaction and enjoyment' and 'altruism' $X^2(6, 202) = 72.12$ $p < 0.01$

Who or what factors influenced the students' career choice?

Influences on students' career choices and program of study were: 'a family member'; 'a friend or role model'; their 'own previous experiences (eg. illness, work/ voluntary work)' and 'no outside influences'. Significant differences were noted for the three groups. 'A family member' was the most influential for the BN group (52%), but less so for the DD groups (33.3%). This accords with reports that 'family members' play a major role in influencing people to take up a nursing career (Larsen et al 2003; McCabe et al 2005). The BN/BECTs were more likely to say that there were 'no outside influences' on their career choice than BNs (20%) or BN/BCPs (35.4%). The influences of 'a friend or role model' and 'own previous experiences' showed similar percentages across the three groups.

Table 6: Who or what factors influenced the students' career choice

	Single degree BN group (n = 77) n %	DD BN/BECT group (n = 31) n %	DD B/BCP group (n = 101) n %	Overall study participants (n = 209) n %
A family member †	39 (52.0%)*, **	10 (33.3%)*	33 (33.3%)*, **	82 (40.2%)
No outside influences ‡	15 (20.0%)*	15 (50.0%)*, **	35 (35.4%)*, **	65 (31.9%)
Friend or role model	9 (8.0%)	2 (6.7%)	26 (13.1%)	35 (10.3%)
Own previous experiences of illness, paid or voluntary work	15 (20.0%)	3 (10.0%)	18 (18.2%)	36 (17.6%)

*, ** Statistically significant differences at $p < 0.05$

†, ‡ There were significant differences between the degree groups in the categories of 'a family member' influences and 'no outside influences' $X^2(6, 204) = 13.7$ $p < 0.03$

DISCUSSION

This study presents the first Australian data contrasting single and DD students enrolled in nursing. Results showed that DD nursing students were different from single degree nursing students on demographic characteristics as well as in their career preferences. They were younger, more likely to be school leavers as noted in previous studies on other DD students (Batson et al 2002; Russell et al 2008); and from a higher socio-economic background. Single degree BNs were older and had career motivations (e.g. altruism) typically found in previous studies on nursing students (Dockery and Barns 2005; McCabe et al 2005). Interestingly, the BN/BECT students were more similar to BNs than BN/BCPs. More of them wanted to work as a nurse (48%) and they had similar motivations (personal satisfaction, altruism). The BN/BCPs were motivated by 'excitement' in their work and only 10% planned to work as a nurse.

The higher number of mature age students in the single degree was typical of a global pattern which authors predict will exacerbate future staffing shortages in nursing (Preston 2009; Drury et al 2008). Because fewer young people are drawn to a career in nursing (Dockery and Barns 2005; McCabe et al 2005), it was thought that DDs might be an avenue to reverse 'the aging' of the workforce. These results presented here did not demonstrate this. Only one-third of DD students were interested in a career in nursing, although another 13% wanted to work in both disciplines.

The study confirmed that a large percentage (70%) of nursing students were from a rural background; however, findings demonstrate less than half expected to work in a rural location with the BN/BCP students the least interested. Other research has suggested that rural students need ongoing and positive rural exposure and experiences to increase retention rates (Mills et al 2011; Bushy and Leipert 2005).

Limitations

Group comparisons were somewhat limited by the small numbers in the BN/BECT group relative to the other two groups; however, this was counter balanced by the fact that all students in this four-year DD participated. A further limit is that the report is based on students in one university only; however the CSU programs constitute the only four year DDs that have students in all years of the course.

CONCLUSION

Despite attracting students from a rural background and providing rural experiences in the program, a relatively low percentage of students planned to work in a rural location in their graduate year. The findings are contrary to current literature on rural based clinical programs and suggest that recruitment and retention of students into rural nursing via DD programs may need more targeted strategies. It was not possible within the scope of the present report to explain the reasons for students' choices, however, further examination of data gathered through interviews and focus groups may bring these to light.

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Diabetes- a significant contributor to complications in cardiac surgery: how and when to optimise glycaemic control

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KEY WORDS

Diabetes, cardiac surgery, glycaemic control, educational intervention

ABSTRACT

Objective

The aim is to present the literature on the association between pre-operative hyperglycaemia and post-operative complications and to review the current interventions (pre surgery, peri /intra- and post-operatively) in those with diabetes undergoing cardiac surgery.

Design

A literature review was undertaken to examine complications and interventions in those with diabetes undergoing cardiac surgery.

Setting

Acute care.

Subjects

Those with diabetes undergoing cardiac surgery.

Main outcome measures

Mortality and morbidity and improved glycaemic control.

Results

Pre-operative hyperglycaemia is associated with wound infections and prolonged length of hospital stay. Studies on intra- and post-operative medical interventions to control glycaemia in cardiac surgical patients demonstrate improved short-term medical outcomes, including decreased mortality and improved glycaemic control, reduction in infection rates and reduced length of stay. Some studies examined the roles of pre-operative glucose management (using glycosylated haemoglobin, HbA1c) prior to surgery and demonstrated that HbA1c can be decreased in short term post-educational interventions. Improvements in physical functioning and quality of life post-educational interventions have been reported. Although the primary outcome is often HbA1c, patient focused outcomes (such as empowerment and education) are equally as important in this chronic condition.

Conclusion

Diabetes is a chronic condition and patients need to be educated about the association between coronary artery disease and diabetes and the importance of glycaemic control. Interventions can improve glycaemic control in the short-term as well increasing patients' empowerment and self-mastery. There is evidence supporting the benefits of educational interventions in those with diabetes undergoing cardiac surgery.

INTRODUCTION

Diabetes is a common chronic condition associated with significant mortality and morbidity. Its worldwide prevalence is increasing from an estimated 285 million people in 2010 to 438 million by 2030 (Diabetes UK, 2009) and one study projecting that one million Australians will have diabetes by 2025 (Magliano et al 2008). Currently, the prevalence of diabetes is approximately 700,000 Australians, 2.6 million in the UK and 17.9 million in the USA. There are also a large number of undiagnosed cases (Australian Institute of Health and Welfare [AIHW] 2008; Diabetes UK 2009; Centers for Disease Control and Prevention 2008) and the majority of diagnosed cases (approximately 80-95%) are Type 2 diabetes (AIHW 2008; Diabetes UK 2009; Centers for Disease Control and Prevention 2008). Given these statistics, the burden of diabetes as a chronic condition requires significant personnel and financial input in managing and treating those with diabetes and its various complications.

As well as the potential complications of renal dysfunction/failure, peripheral neuropathy and blindness; those with diabetes (especially poorly controlled) are at an increased risk of coronary artery disease (CAD). In those with chronic hyperglycemia, an increased risk for cardiovascular disease in individuals with diabetes has been observed (Selvin et al 2004). Subsequently individuals with diabetes are at increased risk of mortality from atherosclerotic heart disease, with USA death rates from heart disease two to four times higher in those with diabetes than those without (Centers for Disease Control and Prevention, 2008). In those with less severe CAD, angioplasty and stent insertion can be performed. However, one of the problems with diabetes is the lack of symptoms (in particular angina) from CAD due to neuropathy and thus these patients present later and with more severe CAD that often requires coronary artery bypass surgery (CABS) for multi-vessel disease. Surgical revascularisation is the most commonly performed cardiac surgical procedure with approximately one third of persons undergoing CABS having diabetes (Dinh et al 2007; Ledoux and Luikart 2005; Mehta et al 2006; Robinson et al 2007). Thus optimising care in those with diabetes should be a priority and given the number of undiagnosed cases, any patient who presents with hyperglycaemia and a suspected coronary event should undergo diagnostic tests for diabetes (Kuhn and Lee 2011).

Although once formally diagnosed, those with diabetes are usually under the care of the diabetes team who educate them regarding their diet, their medication and how to manage their blood glucose levels; regular blood tests for glycosylated haemoglobin (HbA1c) should also be undertaken. This can easily be performed within the primary care setting. It is a commonly used accurate measurement of glycaemic control reflecting HbA1c for the previous two to three months (Guyen et al 2005). Optimal HbA1c levels are defined as those less than 7% [53 mmol/mol] and ideally below 6.5% (48 mmol/mol) and levels higher than 7% indicate poorly controlled diabetes. These individuals require additional medication (potentially insulin) and/or review by their General Practitioner and diabetes healthcare professionals (Diabetes Australia 2009; International Diabetes Federation [IDF] Clinical Guidelines Taskforce 2005). A new measurement was recently introduced using the International Federation of Clinical Chemistry units however the literature presented here uses the HbA1c nomenclature.

The aim of this paper is i) to present the association between hyperglycaemia and post-operative complications and ii) to review the current interventions (pre surgery, peri /intra-and post-operatively) that have been undertaken in those in diabetes undergoing cardiac surgery.

Several studies from cardiac surgical populations have identified diabetes and pre-operative hyperglycaemia as independent risk factors for the development of post-operative complications as presented in table 1.

Complications include infection (Robinson et al 2007; Harrington et al 2004; Golden et al 1999; Guvener et al 2002; Carson et al 2002), renal dialysis (Mehta et al 2006) and increased length of hospital stay and costs (Bucarius et al 2003; Carson et al 2002; Estrada et al 2003; Ngaage et al 2009). However while there is general agreement in the literature regarding the association between diabetes, hyperglycaemia and poorer post-operative complications, some studies have found conflicting results, such as in rates of post-operative mortality, non-infective morbidity and infection (Estrada et al 2003; Hakala et al 2005; Ngaage et al 2009). As can be seen in table 1, there is substantial high level of evidence to demonstrate the relationship between pre-operative hyperglycaemia and post-operative complications in those with diabetes undergoing CABS. The next question is to determine whether undertaking interventions to control glycaemia prior to cardiac surgery is beneficial and secondly what type of interventions are beneficial?

Table 1: Selected results of studies investigating the association between pre-operative hyperglycaemia, diabetes and post-operative complications following cardiac surgery

Study	Type of study	Sample No.	Key Findings
Bucarius et al 2003	Prospective analysis, CABGS and heart valve surgery, Germany	16,184	Diabetes an independent predictor of various complications, including increased length of intensive care unit (ICU) stay, sternal instability/infection and peri-operative stroke ($p < 0.05$).
Carson et al 2002	Retrospective cohort study, CABGS in 434 hospitals in North America	146,786	Increased 30-day mortality in patients with diabetes than those without (3.74% and 2.70% respectively) (Unadjusted odds ratio [OR] 1.40, 95% confidence interval [CI95] 1.31-1.49. Adjusted OR for baseline risk factors 1.23 CI95 1.15-1.32). Increased incidence of infections and morbidity in patients with diabetes than non-diabetes (Adjusted OR ~35% greater in diabetic population). Higher median hospital length of stay in patients with diabetes than those without (8.0 and 7.0 days respectively) ($p < 0.001$).
Estrada et al 2003	Historic cohort study, CABGS, single centre, USA	1,574	Increases in BGL of 50mg/dL associated with: Longer post-operative days (0.76 days) (CI95 0.36-1.17 days, $p < 0.001$). Greater hospitalisation charges (2824 dollars) (CI95 1599-4049 dollars, $p < 0.001$). Greater hospitalisation costs (1769 dollars) (CI95 928-2610 dollars, $p < 0.001$). Increased infection incidence in diabetic group than non-diabetic (6.6% and 4.1% respectively) ($p = 0.03$). Increases in BGL of 50mg/dL not associated with: Increased mortality (OR 1.37, [CI95 0.98-1.92], $p = 0.07$). Increased infection rate (OR 1.23, [CI95 0.94-1.60], $p = 0.14$).
Golden et al, 1999	Prospective cohort study, CABGS, single centre USA	411	Increased risk of post-operative infection with higher average glucose peri-operatively, when data adjusted for patient sex, age, race, Charlson Comorbidity Index, APACHE III score, surgical ICU length of stay ($p = 0.05$).

Guvener et al 2002	Retrospective cohort study, Type 2 diabetes post CABGS, Turkey	1,090	<p>Pre-operative hyperglycaemia 1 and 2 days before CABGS risk factor for post-operative infection ($p = 0.012$ and $p = 0.028$ respectively).</p> <p>Greater incidence of post-operative complications in diabetic than non-diabetic participants:</p> <p>Deep sternal wound infection ($p = 0.048$).</p> <p>Donor site infection ($p = 0.013$).</p> <p>Total infection ($p = 0.044$).</p> <p>Greater early mortality in diabetic than non-diabetic group ($p = 0.048$).</p>
Hakala et al 2005	Case control prospective study, CABGS, matching patients of Type 1 and 2 diabetes, Finland	1,732	<p>Increased mortality at follow-up (69 +/- 37 months) in diabetic patients (14.4%) than non-diabetic patients (8.2%) ($p = 0.00002$).</p> <p>Cumulative 5 and 10 year survival decreased in diabetic group (96% and 88% respectively) than non-diabetic group (97% and 91% respectively) ($p = 0.02$).</p> <p>Nil significant differences in:</p> <p>30-day mortality in diabetic patients (2.0%) and non-diabetic (1.0%) ($p = 0.15$).</p> <p>Deep sternal wound infection (0.7% and 0.2% respectively) ($p = 0.29$).</p> <p>Length of ICU stay ($p = 0.65$).</p> <p>Length of hospital stay ($p = 0.47$).</p>
Harrington et al 2004	Prospective study, CABGS, Victoria Australia	4,474	<p>Diabetes independent predictor of surgical site infection (OR 1.6, [CI95 1.4-2.3], $p < 0.001$).</p> <p>Diabetes independent predictor of deep-incision sternal surgical site infection (OR 2.16, [CI95 1.2-3.9], $p = 0.01$).</p>
Mehta et al 2006	Evaluation of data from CABGS and/or heart valve surgery in >600 hospitals in Canada and USA	449,524	<p>Diabetes associated with patients requiring post-operative renal dialysis ($p < 0.0001$).</p>
Ngaage et al 2009	Retrospective analysis of CABGS and heart valve surgery	6,679	<p>Increased cardiovascular risk factors in diabetic patients when present for surgery.</p> <p>Increased risk of non-infective outcomes: cerebrovascular accident ($p=0.04$), renal dialysis ($p<0.0001$).</p> <p>Increased postoperative stay (9.7 +/- 10.5 days Vs 8.4 +/- 6.7 days), ($p<0.0001$).</p> <p>But diabetes not directly associated with non-infective morbidity postoperatively.</p>
Robinson et al 2007	Multiple logistic regression analysis, cardiac surgery, Victoria Australia	11,848	<p>Diabetes a pre-operative risk factor for deep sternal wound infections (OR 2.5, [CI95 1.79-3.47], $p = 0.000$).</p>

Note: Statistical significance at $p < 0.05$

The primary diabetes outcome measure in the literature is HbA1c and the association between higher levels of HbA1c and morbidity and mortality have been reported. Pre-operative levels of elevated HbA1c were associated with greater incidence of in-hospital morbidity, including myocardial infarction (OR 1.55, 95% CI 1.00 – 2.41, $p=0.05$) and deep sternal wound infection (OR 1.38, 95% CI 1.03-1.84, $p=0.029$) (Halkos et al 2008). In-hospital mortality (OR 1.40, 95% CI 1.06-1.86, $p=0.019$) and unadjusted five year survival post-CABS ($p=0.001$) have also been associated with elevated HbA1c (Halkos et al 2008). In patients with and without diabetes undergoing CABS or vascular surgical procedures, elevated HbA1c has also been associated with six-month post-operative cognitive impairment ($p = 0.047$) (Kadoi et al 2005) and a predictor of prolonged length of stay (Medhi et al 2001), as well as increased risk of post-operative 30-day mortality ($p < 0.001$), myocardial ischaemia (OR 2.8, 95% CI: 1.3-6.0) and 30-day cardiac events (OR 5.3, 95% CI: 1.7-16.6) (Feringa et al 2008). These findings support the importance of optimising HbA1c levels before CABS with the aim of improving outcomes.

Diabetes intervention studies in a cardiac population

Many studies have been conducted on intra- and post-operative medical interventions to control glycaemia in cardiac surgical patients with or without diagnosed diabetes. These studies generally involved the use of medical interventions with medical goals, aiming to control glycaemia and limit post-operative complications in the short-term, through some form of insulin regime or protocol such as intensive insulin therapy, continuous intravenous insulin therapy or glucose-insulin-potassium solutions. Results of these studies generally demonstrated improved short-term medical outcomes, including decreased mortality and improved glycaemic control (Furnary et al 2004; Goldberg et al 2004; Kee et al 2006; Ingels et al 2006), reduction in infection rates (Furnary et al 2004) and reduced length of stay (Lazar et al 2004). Some longer-term outcomes of three and four-year survival and quality of life were not improved (Ingels et al 2006). Interestingly, a review of randomised controlled trials investigating insulin-use in critically ill adults, identified no benefit of insulin administration amongst thirteen studies in the cardiac surgery setting, but there were benefits seen in mortality in patients in the surgical ICU setting and in those with diabetes (Pittas et al 2006). Given the number of studies demonstrating the benefits of glycaemic control, there is a paucity of studies attempting intervention and improvement of glycaemic control pre-operatively.

Pre-operative intervention studies

Few studies were found that examined the roles of pre-operative glucose management in lowering HbA1c prior to surgery. Lowering of HbA1c/diabetes risk factors prior to surgery may improve post-operative outcomes, such as those identified by Halkos et al (2008). A recent study of 317 Type 2 patients undergoing CABS concluded patients may benefit from better CAD and diabetes management both before and after surgery, as less than half of the total sample met pre-operative treatment goals for HbA1c, systolic blood pressure, high-density lipoproteins and body mass index. Insulin-treated patients were highlighted due to their higher risk of poor post-operative outcomes (Deaton and Thourani 2009). Preliminary results of a peri-operative multidisciplinary medical intervention in Israel involving patients with diabetes undergoing elective CABS ($n = 147$) indicate medical management may improve glycaemic control between hospital admission and the post-operative period (Cohen et al 2003). However this is only a preliminary study and further conclusions could not be made due to too few post-operative complications in the study group (Cohen et al 2003).

The use of patient education in the pre-operative, cardiac setting to improve glycaemic control has not been investigated in the literature, but may provide an adjunct to peri-operative medical therapies, also improving psychological factors such as diabetes knowledge and personal empowerment not normally considered. Patient education has been largely used in the primary care setting, with interventions in outpatient and

occasionally inpatient units also being reported. Interventions vary in their approach, manner of delivery and theoretical basis. Recent attention has been given to empowerment-based interventions, which it is argued, enable patients and allow them to be more responsible for their self-management and care decisions, thus managing their care more effectively (Meeto and Gopaul 2005).

Table 2: Previously attempted peri-operative interventions to improve blood glucose control and post-operative outcomes (selected) in patients with diabetes / hyperglycaemia

Study	Type of study	Intervention	Sample No.	Study findings
Furnary et al 2004	Non-randomized prospective interventional study, cardiac surgery, USA	Continuous intravenous insulin therapy (peri-operative)	4,864	Decreased risk of post-operative mortality by 57% ($p < 0.0001$). Decreased risk of deep sternal wound infections by 66% ($p < 0.0001$).
Goldberg et al 2004	Prospective cohort study, ICU, USA	Intensive insulin infusion protocol (nurse driven) (post-operative)	118	When blood glucose of <140 mg/dL reached, 58% of subsequent hourly BGLs within target range (100-139 mg/dL), 73% within desirable range (80-139 mg/dL), 94% within acceptable range (80-199 mg/dL), 0.2% less than 60 mg/dL.
Ingels et al 2006	RCT, cardiac surgery, ICU, Belgium	Intensive insulin therapy (post-operative)	970	Decreased mortality during ICU stay (2.1% versus 5.1%, $p = 0.01$) and two-years post surgery (6.9% versus 11.7%, $p = 0.01$) in intervention group compared to control respectively. Nil significant difference in mortality three years (10.8% versus 13.8%, $p = 0.1$) or four years (15.7% versus 18.7%, $p = 0.2$) post surgery between intervention and control groups respectively. Nil significant difference in quality of life four years after surgery between intervention and control groups ($p > 0.05$).
Kee et al 2006	Cohort study, cardiac surgery, ICU, USA	Insulin nomogram (post-operative)	103	Improved blood glucose control within target limits (6.1-10.0 mmol/L) (by 20%) following implementation of intervention ($p < 0.001$). Decreased mean BGLs following intervention ($p < 0.001$).
Lazar et al 2004	Prospective randomized trial, CABGS, USA	Tight glycaemic control with a glucose-insulin-potassium solution (intra- and post-operative)	141	Decreased post-operative length of stay in intervention group (6.5 +/- 0.1 days) than control (9.2 +/- 0.3 days) ($p = 0.003$). Increased two-year survival post-surgery in intervention group than control ($p = 0.04$). Decreased incidence of recurrent wound infections in intervention group (1%) than control (10%) ($p = 0.03$). Nil difference in 30-day mortality between either group ($p = 0.99$).

Note: Statistical significance at $p < 0.05$

Studies of educational interventions generally only investigate short-term outcomes, with HbA1c the common outcome measure (Albano et al 2008). Reviews of published studies have found that HbA1c can be decreased in the short term post-educational interventions (Clark 2008; Ellis et al 2004; Norris et al 2002; Sigurdardottir et al 2007), with a greater decrease of up to 2.5% in patients with initial HbA1c greater than 8% (63.9 mmol/mol) (Sigurdardottir et al 2007). An increasing number of studies are assessing their interventions on psychosocial outcomes with reviews identifying improved physical functioning, mental health and quality of

life, and decreased bodily pain post-educational interventions (Zhang et al 2007; Steed et al 2003). Further research into long-term outcomes is required (Clark 2008), however some recent studies with lengthened follow-up periods of between 14 months and five years demonstrated promising long-term results, with improvements in HbA1c (Deakin et al 2006; Hornsten et al 2008; Ko et al 2007; Sarkadi and Rosenqvist 2004), empowerment (Deakin et al 2006) and treatment satisfaction (Deakin et al 2006) identified at final follow-up. These studies suggest that although the primary outcome was often HbA1c, patient focused outcomes (such as empowerment and education) are equally as important in this chronic condition.

CONCLUSION

Current management of patients with Type 2 diabetes undergoing cardiac surgery, namely CABS, focuses upon medical management during the intra- and post-operative periods. Few studies investigate the use of preoperative glycaemic control, in particular using HbA1c. It appears that glycaemic control is an important aspect but with no longer-term benefits reported. It would seem pertinent to undertake glycaemic control pre-operatively but to add educational components to improve patients' understanding of their diabetes and allow greater empowerment and self-mastery. This approach would be a multi-disciplinary approach including physicians, diabetes educators, and dieticians, nursing staff and psychologists for example. Diabetes is a chronic condition and patients need to be educated about the association between CHD and diabetes and the importance of glycaemic control. Nursing staff also need to be cognisant of the impact of diabetes on cardiac patients and to involve the diabetes team as early as possible in the patients' care.

There is now some evidence to support patient education in the preoperative setting with the aim of improving and/or optimising glycaemia prior to admission for surgery. Education may also improve psychological factors such as empowerment and self-management, which may continue beyond discharge from hospital; an important consideration in any chronic condition.

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Clinical placement in Jordan: qualitative views of final year nursing students

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KEYWORDS

Nursing students, clinical placement, Jordan, focus group discussions

ABSTRACT

Objective

This study explored the nurse student's experience of the final year placement, and uncovered contributing factors to a positive clinical experience in Jordan.

Design

A qualitative explorative approach was used. Two focus group discussions were conducted in Arabic language with a total of 12 participants selected randomly from the list of students who completed the period of pre-graduation intensive clinical placement. The focus discussions were digitally recorded.

Setting

The setting for this study was a public faculty of nursing located in the southern province, Jordan.

Subjects

Twelve final year nursing students including seven males and five females took part in the study.

Main outcomes measures

The recorded discussions were translated independently into English text and were uploaded into Nvivo 9 for thematic analysis.

Results

Three themes emerged from the data. The first theme related to the environment of clinical placement and included two sub-themes: 'from orientation-to-team work' and 'from tiredness-to-ignorance'. The second theme is about the faculty and preceptors as reflected by the lack of coordination between the clinical settings and the faculty, plus inconsistency in students' evaluation. The third theme concerned patient preferences that included a lack of interest in receiving care from students.

Conclusion

Creating a supportive learning environment guided by issues identified and implications put forward by this research is a prerequisite for successfully executed nursing programs. Failure to do so could lead to a stressful transitional journey and detachment from the classroom and the real world of clinical work.

INTRODUCTION

Clinical placement is a vital component of nursing education because it links theory to practice, (Wang and Chen 2010; Chapman and Orb 2000; Gray and Smith 2000) enhances communication skills (Pigott 2001) and coping with realities of the work life, and therefore helps students to develop their professional roles (Hartigan-Rogers et al 2007). Upon graduation, nursing students often return to the area in which their clinical placement was positive (Edwards et al 2004) that is more related to how students are valued than aspects of the physical environment (Hartigan-Rogers et al 2007). Accordingly, the supportive learning environments are paramount for securing the required teaching and learning experiences (Chan 2002).

Students often experience diverse difficulties during their clinical placement (Bashford 2002; Chapman and Orb 2000) because of a lack of competence, uncertainty and overload among others (McKenna et al 2010; Zupiria et al 2007). Earlier work found that students experienced anxiety and dissatisfaction with the clinical placement (Chan 2002) and noticed the gap between what they learned and what nurses actually do (Sharif and Mousumi 2005). Specifically, the negative experience of clinical placements leads to a feeling of isolation, and so affecting competency, team work skills and job satisfaction among newly qualified nurses (McKenna et al 2010; Ross and Clifford 2002).

Offering students a suitable learning environment is a difficult objective to achieve for a wide range of complex and overlapping issues including absence of friendly learning environments, lack of general resources and limited access to training areas (Jackson and Daly 2009; O'Flanagan and Dajee 2002). Within certain societies, male students experience discrimination within the placement because of low status of nursing as well as gender bias (Wang and Chen 2010). In review, a wide range of studies offer valuable information for developing students' placements (Wang and Chen 2010; Hartigan-Rogers et al 2007; Chapman and Orb 2000). These studies however were carried out in selected countries (the United Kingdom and Australia) and therefore the applicability of available evidence to other countries might be questioned. Therefore, studies are required from other countries to bridge this gap in the existing body of the literature. From this perspective, a decision was made to conduct the current study in Jordan.

Why Jordan?

In the last 15 years, many nursing schools have been established in Jordan creating extra pressure on the clinical settings. Importantly, clinical practice represents nearly half of the requirements of a bachelor of nursing program including an intensive course that is offered in the pre-graduation semester. The course is defined as starting with an ending, followed by a period of confusion and distress because it leads to a new beginning (Williams 1999). Scholars argue that the pre-graduation clinical course is a stressful stage because nursing students lack knowledge on professional issues (Ross and Clifford 2002; Edmond 2001). During such a stage students' needs and expectations might alter closer to graduation (McKenna et al 2010) and they begin to understand boundaries that define safe and ethical practice (Nash et al 2009). Consequently, such a transitional stage of students will inevitably involve students' views, experiences and future plans. The success of their entire nursing program depends largely on the effectiveness of their clinical experiences (Pearcey and Elliott 2004). Therefore, it is necessary that Jordanian educators assess students' experiences in order to offer them a supportive learning environment where learning needs can be met. Once students' experiences of the final year placement are understood, efforts will be made to create a smooth and positive transitional journey from training to professional practice. The purpose of the present study was to explore the nurse student's experiences of the final year placement, and then uncover factors shaping the clinical experience.

METHODS

As the problem under investigation has not been examined before within the Jordanian context, a qualitative explorative approach through focus group discussions was used. This method was considered appropriate to elicit a deeper understanding about the fourth year nurse students' experiences of clinical placements. Students' interactions during the group discussion become a vital aspect of empirical contribution to the development of shared stock of knowledge and experience (Leshem and Trafford 2006; Holstein and Gubrium 1995).

Ethics approval was granted by the Research Ethics Committee of the Faculty of Nursing, Mu'tah University, Jordan. Written informed consent was obtained from each participant before data collection. Participation in the study was voluntarily. Both authors were not involved in instructing, supervising and marking assignments related to the intensive clinical placement. Confidentiality was achieved by using codes and all data were kept in a secured office, and access to data was restricted to the authors.

DATA COLLECTION

Once permission to conduct the study was granted, two focus group discussions were undertaken. Each group included six participants selected randomly from the list of students who completed the period of pre-graduation intensive clinical placement. The group discussions were held in the faculty meeting room that had good illumination and ventilation, upholstered chairs and space for group activities.

Using the brain-storming technique, participants were encouraged to engage actively in the group discussions on their clinical placement of the transitional stage. The first author moderated the group discussions in Arabic language, and drove the dialogue towards the purpose of the study. All discussions were digitally recorded and each discussion lasted about 45 minutes.

At the end of the second focus group discussion, the moderator decided no further focus group discussions were needed because key themes became repeated. This could be explained by less heterogeneity between participants of the current study who were students from the same age group and cultural background.

DATA ANALYSIS

Preparation for analysis

The digitally recorded focus group discussions were translated from Arabic into written English texts. Several measures were employed to ensure that the English transcripts were comparable to the original data. First, translation was made independently by the first author and a nursing researcher who were speakers of both Arabic and English languages. Second, the two translated versions were examined by the authors, and in the case of difference, the recorded discussions were reviewed until consensus was reached.

The final version of the translated transcripts was uploaded into NVivo 9, a computer software for working with qualitative data, for analysis using the thematic approach. The translated transcripts were analysed in two stages: firstly, transcripts generated from each focus group discussion were examined separately. Secondly, all sets of data emanating from all the focus group discussions were examined together in order to identify commonalities between different transcripts.

Data analysis commenced with data collection, continued with the translation of data plus re-playing, many times, the digitally recorded focused discussions as well as working with the translated transcripts. Such a process of analysis enhanced familiarity with data.

The transcripts were read many times using different strategies including reading the whole transcript of each

individual focus group discussion. After that, transcripts were scanned line-by-line to identify the central themes. Once the main themes were highlighted, a category system was created for each transcript. Data emanating from the process of analysis involved examples of the discursive nature of the method by reporting two or more participants in any extracts rather than focusing on an isolated excerpt offered by a certain individual.

The trustworthiness of data

Several strategies were employed throughout the study to enhance trustworthiness of the obtained results. The participants were given the chance to correct the moderator summaries, and they were given the opportunity to add further information. In so doing, credibility of data was established. The involvement of an independent researcher in the process of translation and data analysis achieved independability as well as conformability in the study (Porter 2007). Additionally, conformability was enhanced by the bilingual competencies of the authors. Finally, the transferability was assured by offering the reader sufficient details about the research and how rich descriptions were developed from the data.

FINDINGS

Participants Profile

The sample included a total number of 12 full time fourth year nursing students. Out of the 12 participants, seven were females and five were males. The average age was 23 years. The mean of their accumulated university averages was 71.3 which were considered good.

Qualitative Data

Data were categorised into three main themes; one theme is concerned with the environment of clinical placement, another theme is related to the faculty and preceptors. The third theme is about patient preferences. Themes and sub-themes are given in table 1.

Table 1: Themes and Sub-themes about Student experiences

Themes	Sub-themes	Cluster of meanings
Environment of Placement	Clinical Placement: from orientation-to-team work	Opportunity to work independently Good orientation to the placement Learning advanced skills Working as a member of the team Being confident
	Clinical Placement: from tiredness-to-ignorance	Exhaustion Being ignored by nursing staff Feeling incompetent
Clinical Placement: between the Faculty-and-Preceptors		Poor communication Unfair evaluations Lack of preceptors Crowded placement areas Taking the advantage of students Lack of coordination Lack of consistency in student evaluation
Clinical Placement: Patient preferences		Patients' gender Cultural issues

Environment of Placement

Analysis of the focus group discussions revealed two sub-themes concerning the environment of placement; namely 'clinical Placement: from orientation-to-team work' and 'clinical placement: from tiredness-to-ignorance'.

Clinical Placement: from orientation – to – team work

All participants highlighted how the placement had contributed to their knowledge and skill development. Although each experience was unique in its own right, participants shared similar feelings and reflections.

...I worked in the hospital and the orientation was good from day one. The supervisor told me everything about the area. I was a bit scared in the beginning, but in general I felt happy (student 1).

Another participant moved beyond the importance of orientation to the importance of how nurses deal with students.

...I agree, ...how other nurses deal with you and show you the area would make a huge difference to your placement. My experience was good as I felt that I am like a real nurse and I can work alone (Independently) (Student 2).

Participants pointed out how the placement was a valuable opportunity to gain further knowledge and skills about many cases. The dynamic interaction between participants is shown in the following extracts.

My previous training for the course of Adult Health Nursing was in the emergency room... but this time (The Pre-graduation Course) I was more confident to practice more advanced skills with the medical team, such as CPR... (student 3).

Another participant confirmed the role of the transitional clinical placement in alleviating worries of dealing with emergency situations.

...that is rightwhen I was a second year nursing student, I was so worried about how to deal with a patient in the emergency area...I felt that the final year placement (The Pre-graduation Course) helped me to enjoy learning and not escaping from cases! (laughing) (student 4).

In light of the above findings, it is evident that a supportive placement environment helps students to develop competencies as well as enhances their confidence and professional growth. However, it is necessary to document that participants highlighted events that made the clinical placement not up to their expectations. These events are presented below under the sub-theme 'from tiredness-to-ignorance'.

Clinical Placement: from tiredness – to – ignorance

Participants considered unpleasant events like "salt in a nice cup of tea". They mentioned that unhelpful nurses with demanding patients made the placement tiring.

....I worked a couple of shifts in the male surgical ward, it was really bad...I had to work with many demanding patients.... I felt so tired every shift and the other nurses did not help that much...(student 1)

Participants sometimes felt disappointed due to poor communication from the side of nursing staff and preceptors (nurses allocated by hospitals to train the students). Such feelings were associated with delegating much of the physical work to students of the pre-graduation clinical placement.

... nurses do not communicate well with us... I worked with an in-charge nurse, and she delegated all her work to me...I was tired, but I need to complete the course and get graduated... (student 3).

Participants moved beyond tiredness to the feeling of incompetence in certain areas that made the placement unpleasant.

.....while was working in the emergency, I was left alone with complex cases and felt incompetent and a bit confused ... (student 5).

Another participant confirmed that nursing staff can dramatically change the experience to the extent of feeling ignored during the clinical placement.

....yes, I agree with my colleague. Sometimes after you have a good shift, your experience might change once you start working with some nursing staff...One day, I felt like being ignored by nursing staff and kept walking in the corridor like a visitor! (Laughing) (student 6)

Given evidence demonstrates that although all participants in this study had undertaken their placements in teaching hospitals, it seems that the learning environment was not always supportive. This has contributed to a negative experience of placement.

Clinical Placement: between the faculty – and – preceptors

When participants spoke about the supervision during the clinical placement, they reported limited level of coordination between the faculty teaching staff and clinical settings.

... there is something missing between teaching staff in our faculty and hospital's preceptors ...I felt sometimes that they do not cooperate well with each other.. (student 5).

In addition to the perceived lack of adequate coordination between faculty staff and hospital settings, participants' performance was not always well monitored by some preceptors. This lack of monitoring could be attributed to, first, deficient in skills “...monitoring skills were very poor, and the [preceptor] visit was not effective”. Second, students were not the first priority of the preceptors who are responsible for many patients and nurses.

....I agree, but to be fair they [preceptors] are busy with their workYou know if you are the in-charge of the ICU and have lots of patients and newly employed staff, are you going to train students!! (student 1).

Participants considered the increasing number of students an obstacle for achieving the learning objectives.

... yah...the number of students is very high... we find ourselves with many other nursing students from different courses. You know, this affects the way how the learning objective is achieved (student 6)

Participants expressed their concerns about the overall evaluation process of the final year nursing students. In this context, one participant claimed that “... the criteria of evaluation were okay, but they do not use it in the right way... (students 4). Another participant declared that “....the exam was more about theoretical knowledge than practical skills”, despite of the fact (participants' impression) that the curriculum gives lots of attention to the development of psychomotor skills.

In light of the above evidence, it seems that students' clinical placements have a lack of monitoring and training opportunities. Reasons for such a lack of opportunities range from poor coordination between the faculty and clinical preceptors, poor student supervision to improper usage of the evaluation criteria.

Clinical Placement: patient preferences

Participants considered patient gender preferences and cultural issues as factors that limit the training opportunity. Specifically, the analysis revealed that patients do not prefer students to get involved in delivering care to them. This is illuminated by the following extract:

I think that sometimes patients do not like us (students) to work with them...Once they see us wearing the faculty uniform, they refuse to answers questions and allow us to carry out basic nursing care....(student 7).

One participant claimed that female students have a better chance of training than males in that male students cannot work with female patients. On the other hand, female students can work with both female as well as male patients. Yet, according to participants, some male patients do not allow female students to take care of them.

.....sometimes, male patients do not want to be looked after by female students and vice versa. In the emergency, this issue is less problematic, but in general female students have lots of skills to do with both male and female patients ...you know they can work with many cases regardless their gender..(smiling) (student 3).

The claim that male gender limits training opportunities is supported by a female participant.

“...well, I think that is true as female students we can freely work with different patients regardless their gender...but male students are often not allowed to work with female patients except in emergency and ICU areas (student 8).

It is worth noting the above findings reflect the fact that the reality of the hospital ward and the gender of its patients play an important role in shaping students' experiences of the clinical placement and thus achieving its goal.

DISCUSSION

The study examined fourth year nursing students' experiences of the clinical placement in Jordan. The findings confirm earlier evidence that clinical placement might be frustrating for students if the setting is not supportive and the expectations are unclear (Sharif and Mousumi 2005; Chan 2002).

The experience of students in this study is consistent with earlier reports showing that the clinical placement environment does not only allow them to develop competency, but also enhances their confidence and professional growth (Robinson et al 2008). These findings outline that being alone in the placement with little support from nursing staff have a negative impact on students' confidence. In line with this, it is not surprising that the worst aspect of the transition experience among nursing graduates is the feeling of being “thrown in at the deep end to sink or swim” (James et al 2002). To avoid this situation, students need to be aware of the possible options for future placement and how this might affect their underdeveloped skills. When students are encouraged to reflect on their practice and highlight the training needs, a mechanism to address such needs can be designed.

As graduates, students will be required to have adequate knowledge and skills to be able to transform competencies into real scenarios (Papp et al 2003; Zhang et al 2001). Accordingly, efforts need to be made to create a clinical practice-based teaching that enhances students' learning and enriches the learning environment (Wang and Chen 2010; Billay and Yonge 2004; Koh 2002). That is, students' career development goals and the experience of clinical placements are interrelated. In this context, a national Australian study found that nursing students and health care staff both desire clinical placements which provide students with quality learning experiences that meet the growing demands placed upon graduates on completion of their studies (Clare and Loon 2003). Graduates are more likely to seek employment in areas where they had positive experiences (Talbot and Ward 2000).

Whilst in Jordan nursing students consider themselves as independent learners (Abu-Moghli et al 2005) this study, to some extent, challenges this postulation. In the light of the emerging evidence, it can be argued that students might not take an active learning role where the clinical environment is not supportive and encouraging. In reality, and as evident by this study, some students are left on their own and thus are forced

into a context of performance and learning (Bjørk and Romy 1999). In particular, students might be seen as fully employed nurses in contrast to learners seeking the fulfilment of their placement and professional development goals. Accordingly, in order to address the nursing employment issues in Jordan (e.g. increase numbers of unemployed male nurses), attention should be given to the nature of clinical placement prior to graduation. Such placements need to provide an environment for gaining nursing skills, but also to establish and promote networks that help in creating job opportunities.

Although statistical correlations cannot be made in this study as a qualitative one, participants made links between good preceptors and good clinical experiences. Preceptors often provide the real-world experience that students seek, and so reduce reality shock (Lockwood-Rayermann 2003). Yet conflict can exist in preceptorship experiences, creating negative outcomes for students, preceptors and faculty (Altmann 2006; Myrick et al 2006). In congruent with this, the current study indicated that preceptors might not be consistent in terms of the use of evaluation methods, and the time devoted for student training. Accordingly, students experience anxiety as a result of incompetency and lack of professional nursing skills and knowledge to take care of patients (Sharif and Mousumi 2005; Billay and Yonge 2004). Locating adequate number of preceptors is challenging due to the lack of experienced staff nurses (Leners et al 2006). In Jordan, this is complicated by low nursing salaries and migration of nurses to Gulf countries where living standards are higher. However, increasing the number of preceptors is not enough to guarantee consistency in the process of preceptorship. Accordingly, there is a need for continuous evaluation of preceptors and updating their skills to monitor students. Based on this, the faculty of nursing would collaborate with hospitals in order to develop a framework enhancing the placement environment for students. It was found that a better system of monitoring students and effective preceptorship is a reason for students' higher satisfaction with their clinical studies (Papp et al 2003; Saarikoski 2002).

Finally, the study reminds us that there are complex and overlapping issues involved in shaping students' experiences of the clinical placement. Indeed, the challenges are not about effective preceptors and the availability of placement areas, but importantly about what is carried out in the name of training students, cultural and gender issues. In particular, whilst evidence from the present study is limited, some students felt that other nurses took advantage of them by delegating their physical tasks to students. The net results of these factors might lead to alienation of students resulted from unwelcoming clinical environments, and from the dissonance created when their personal and professional values did not match with those experienced in placement. Likewise, it should be considered that hospitals are cultural systems in their own right. Related to this, male students in this study expressed their concerns about their inability to look after female patients and thus learn and gain skills in comparison to female students who had better placement opportunities because they can work with both genders. However, this should not be taken as an excuse for lowering the standard of placement and thus putting patients' lives at risk. A careful distribution of students to the clinical areas taking into account gender issues is needed. Using cooperative learning activities among male students would increase collaboration and decrease competition, and thus enhance the placement experience. Learning lessons from well established international nursing faculties and placement areas is beneficial to enhance students' placement experience. Western organisational ideas however should not be applied in package forms rather than be adapted to the local environment and culture (Suliman 2001). In general, the placement culture, as a reality, is much more complex than offering resources and applying ideas. The factors that are involved in shaping students' experiences of clinical placement should be taken into account in future developments in nursing education. So doing might avoid the situation when students felt that the stressful time during the placement was like "salt in a nice cup of tea."

Study Limitations

To the best of the researchers knowledge, this present study is the only Jordanian research that examined specifically the final year nursing students' experiences of the placement. The study, however, suffers from some limitations to keep in mind. The sample was small totalling 12 participants that were recruited from only one nursing faculty. Although the aim of qualitative research is an in-depth understanding of the problem, these limitations compromise the generalising of findings. Future research with a larger sample size in different contexts will verify or add knowledge from this study. A possibility for misinterpretation of participants' views during the translation process is another limitation to be acknowledged. Finally, the findings are limited to the students' perspective and experiences. Therefore including the perspective of faculty educators and hospital preceptors could provide a more complete picture about the overall placement environment and complement the study data.

CONCLUSION

The study examined qualitatively the nurse student's experiences of the final year placement in Jordan. Each student had a unique experience thereby considering students' preferences is important for successful clinical placement. Thorough assessment of the placement settings prior to student allocation is a recommended strategy enhancing the success of placement. Failure to do so could lead to a stressful transitional journey and detachment from the classroom and the real world of clinical work.

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The effect of overactive bladder syndrome on the sexual life in asymptomatic continent women

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KEYWORDS

Overactive bladder, sexual life, women, asymptomatic, continent, survey

ABSTRACT

Objective

Overactive bladder syndrome (OAB) is a very common problem, particularly in women, and has an effect on their daily lifestyle and sexual activity. The purpose of this study was to evaluate the effect of overactive bladder syndrome on sexual life in asymptomatic continent women who are considered to be sexually active.

Design

Descriptive and cross-sectional study.

Setting

Gynaecology and obstetrics outpatient clinic, Pamukkale University Medical Faculty, Turkey.

Subject

A total of 1,504 patients as research population were examined and 117 patients without gynaecological symptoms presenting to the Obstetric and Gynaecology Clinic were included in the study.

Main outcome measures

For data collection a questionnaire to gather socio-demographic and medical information, an assessment tool (OAB-at) and the Female Sexual Function Index (FSFI) for evaluating sexual dysfunction were utilised.

Results

Patients were determined as 28 continent women with OAB, 89 women without OAB. In line with this information we found the mean score of OAB positive continent women was 13.00 ± 5.06 and the mean score of OAB negative women was 3.57 ± 2.15 . Patients with OAB had negatively impacted sexual function in the areas of arousal, lubrication, orgasm and pain.

Conclusion

OAB syndrome adversely affects sexual life even in continent women.

INTRODUCTION

In the 2002 International Continence Society (ICS) Standardisation of Terminology report overactive bladder (OAB) is defined as urgency, with or without urge incontinence, usually with frequency and nocturia in the absence of infection or another proven pathology (Abrams et al 2002). The overall prevalence of OAB is 12.8% of women and the rate increases with age (Irwin et al 2006; Teloken et al 2006). The usual prevalence of OAB in premenopausal women is 5–10% (Milsom et al 2001; Moller, Lose and Jorgensen 2000).

In clinical practice, it is commonly found that not only the symptoms of urinary incontinence (UI) but also OAB syndrome affect daily lifestyle and sexual activity, especially for women during the most active era of their social and personal lives (McVary 2006; Patel et al 2006; Kim, Seo and Yoon 2005;). Sexual well-being is an important aspect of women's health, and dysfunction can lead to reduced quality of life and affect marital relationships (Oh et al 2008). Female sexual dysfunction (FSD) is a common disorder with an incidence of 30–50% and is an age-related and progressive problem (Hayes and Dennerstein 2005; Cayan et al 2004).

A number of studies have found that OAB and urinary incontinence in women are associated with sexual dysfunction (Peters et al 2007; Aslan et al 2005; Kizilkaya Beji et al 2005; Handa et al 2004; Salonia et al 2004; Salonia, Zanni et al 2004; Gordon et al 1999). However, there is a lack of data demonstrating the effect of OAB syndrome without urinary incontinence on sexual activity in the sexually active age group (Oh et al 2008; Serati et al 2008; Coyne et al 2007; Sen et al 2007; Patel et al 2006; Kim, Seo and Yoon 2005). The aim of this study is to evaluate the effect of OAB syndrome on the sexual life of asymptomatic continent women.

METHOD

Participants

The research population comprised 1,504 women who presented to Pamukkale University Medical Faculty Gynaecology and Obstetrics Outpatient Clinic in Denizli, Turkey. All patients were evaluated with history taking, urinalysis and urine culture. Those who were in the postmenopausal period, pregnant or had gynaecologic complaints (pelvic pain, dysfunctional bleeding, pelvic inflammatory disease, etc) were excluded from the study. The research sample comprised 120 women in the premenopausal period. Urine samples for culture were obtained and three women with culture-proven urinary tract infection were excluded from the study. Using the Over Active Bladder Assessment Tool women were categorised into two groups: with and without OAB. Eighty-nine women without OAB symptoms and 28 continent women with OAB symptoms were included in the study. Written and oral approval was obtained from patients prior to the study.

Instruments

Patient socio demographic and medical data were collected via face-to-face interview and from medical chart abstraction using structured questionnaires. In addition, for the diagnosis of OAB, the OAB assessment tool was used. For evaluation of sexual function the Female Sexual Function Index (FSFI) was used. To determine the pattern of sexual intercourse, the frequency of intercourse was also enquired about. Data were collected in two stages. In the first stage, the OAB diagnostic form and the FSFI questionnaire were administered to the patients by two different investigators. In the second stage, the questionnaires were evaluated by all investigators. Patients with a total score of less than 8 on the OAB diagnostic questionnaire were classified as OAB negative and those with a total score of 8 or greater were classified as OAB positive.

Over Active Bladder Assessment Tool (OAB-at)

Since one of the aims of our study was to distinguish those women with OAB problems from those without, the eight question symptom bother scale was used. Each item can be assigned scores from 0 to 5. The OAB

V8 screener describes and identifies the number of individuals with OAB symptoms presenting to urology outpatient clinics (Acquadro et al 2006).

The Female Sexual Function Index (FSFI)

The FSFI was developed by Rosen et al (2000) as a 19-item multidimensional scale to evaluate female sexual function. This index evaluates the sexual function and related problems in the preceding four weeks. The index comprises six subsections: desire, arousal, lubrication, orgasm, satisfaction and pain. Each domain consists of two to three questions and has a specific coefficient factor (0.6 for desire, 0.3 for arousal and lubrication, and 0.4 for orgasm, satisfaction and pain) that is used to obtain the final score for each domain. The individual domain scores are combined to give a total score with higher scores implying better or more normal sexual function (Rosen 2000). The index was adapted to Turkish culture and validated in Turkish women by Aygin et al (2005).

Table 1: The demographic and other characteristic of patients with and without OAB

	OAB 8 < n:89	OAB 8 => n:28	P value
Mean age (SD) ^a	40,80±8,66	41,60±8,39	0,756
Marriage duration ^a	20,21±9,44	21,82±9,52	0,404
Body Mass Index(BMI) ^a	27,46±4,52	28,73±4,44	0,098
Primipare age ^a	21,81±3,70	20,80±2,87	0,275
Parity ^a	2,98±1,66	3,89±1,79	0,017
Education level ^b			
- < 8 years	56 (%62,9)	17 (%60,7)	0,833
- 12 years or university level	33 (%37,1)	11 (%39,3)	
Occupation ^b			
Employed	18 (%20,2)	5 (%17,9)	0,783
Unemployed	71 (%79,8)	23 (%82,1)	
Abdominal surgery ^b			
Yes	22 (%24,7)	12 (%42,9)	0,065
No	66 (%75,3)	16 (%57,1)	
Chronic disease ^b			
No	80 (%89,9)	26 (%92,9)	0,936
Diabetes Mellitus	1 (% 1,1)	-	
Hypertension	4 (%4,5)	1 (%3,6)	
Others	4 (%4,5)	1 (%3,6)	
Income ^b			
Low	79 (%88,8)	22 (%78,6)	0,171
Medium	10 (%11,2)	6 (%21,4)	
Delivery type ^{b,c}			
NSVD	73 (%91,3)	22 (%88,0)	0,629
C-section	7 (%8,8)	3 (% 8,0)	
Frequency of sexual intercourse ^b			
1-2/month	29 (70,7)	12 (29,3)	0,605
1-2/week	46 (79,9)	12 (20,9)	
3-4/week	14 (77,8)	4 (22,2)	

^a Statistical analysis was performed using the Mann Whitney-U test

^b Statistical analysis using Chi-square test

^c: Since there are nulliparous women, group 1 includes 80, group 2 includes 25 patients.

NSVD: Normal Spontaneous vaginal delivery

Data Analysis

The Statistical Package for Social Sciences (SPSS) 11.0 software was used for statistical analysis. The significance level for all analyses was set at 5%. Chi-square test was used to compare categorical variables; since it did not match normal distribution the Mann–Whitney U test was used to compare two groups.

RESULTS

In line with this information we found the mean score of OAB positive continent women group was statistically different than the OAB negative women group (13.00 ± 5.06 and 3.57 ± 2.15 respectively). Table 1 presents the demographic and other characteristics for all patients by OAB status. The mean age of patients with and without OAB were 41.60 ± 8.39 and 40.80 ± 8.66 years, respectively. All women had been married for a long time (20.57 ± 9.41). Slightly more than 60% had only primary education and over three-quarters of the women were employed. While 71% ($n=89$) of women did not experience OAB, 23.9% ($n=28$) did have OAB symptoms. When sexual intercourse frequency was evaluated, 49.6% of patients had sexual intercourse once or twice a week. Age, length of married life, body mass index, age at first parturition, educational level, employment status, history of abdominal surgery, presence of other chronic diseases, income level, delivery type and frequency of intercourse were not associated with the presence of OAB syndrome. A higher parity was associated with OAB ($p < 0.05$).

Patients with OAB had significantly lower scores in the sub-categories of arousal ($p=0.035$), lubrication ($p=0.035$), orgasm ($p=0.013$) and pain ($p=0.038$) compared to patients without OAB (table 2).

Table 2: FSFI scores of patients with and without OAB

	Oab 8< n:89	Oab 8=> n:28	mean p value
Desire	2,99 (0,91)	3,02 (0,95)	0,905
Arousal	3,23 (0,72)	2,70 (1,25)	0,035
Lubrication	3,23 (0,72)	2,70 (1,25)	0,035
Orgasm	2,93 (0,64)	2,40 (1,04)	0,013
Satisfaction	2,01 (0,95)	2,58 (4,20)	0,469
Pain	3,71 (0,91)	3,07 (1,53)	0,038
Total FSFI	18,11 (2,94)	16,48 (7,26)	0,239

*Statistical analysis was performed using the Mann Whitney-U

DISCUSSION

It has found the existence of OAB syndrome in continent women is related to sexual dissatisfaction. Most published studies have reported that women with OAB syndrome and urinary incontinence have some problems during sexual functioning; (Peters et al 2007; Handa et al 2004) however, there are little and conflicting data on sexual dysfunction in OAB patients without urinary incontinence. Women with OAB syndrome often suffer from suprapubic pain or discomfort, dysuria, and experience more pain during intercourse as well as other sexually related problems (Kim, Seo, and Yoon 2005). In a prospective study of 100 women referred for urogynaecological evaluation, those with detrusor instability and resulting OAB had significantly lower sexual function scores than those with stress urinary incontinence (Gordon et al 1999). Troublesome urge urinary incontinence was reported in 46% of women complaining of orgasmic phase difficulties (Salonia, Zanni et al 2004). Kim et al (2005) found that sexual activity was significantly reduced in OAB syndrome and UI versus the asymptomatic group (Kim, Seo, and Yoon 2005). Sen et al (2007) reported that although all the FSFI domain scores are lower in the OAB group, only 'desire' was found to be statistically different.

The FSFI scores of the OAB-dry and OAB-wet groups were also similar. In another study including OAB with and without incontinence negatively affects women's sexual health, reducing sexual desire and the ability to achieve orgasm (Coyne et al 2007). However, in contrast to these findings, in our study sexual desire was not affected with the existence of OAB complaints. Our results suggest that OAB syndrome adversely affect arousal, lubrication, orgasm and pain scores. These data are extremely important in that the OAB syndrome without incontinence may decrease the sexual function quality. In contrast to our results and above studies, in their report on the quality of sexual life of UI patients, Tomoe et al (2005) and Patel et al (2006) pointed out that UI had little impact on the sex lives of patients. Oh et al (2008) suggested that women with stress urinary incontinence more frequently experienced pain during intercourse and coital incontinence than those with OAB.

The absence of OAB incontinent women in the study group may be the limitation of this study. However, recent research results show that there is no statistical significance in sexual function scores between continent and incontinent OAB groups (Sen et al 2007).

CONCLUSION

In conclusion, OAB symptoms were found to be the significant risk factor for decreased sexual function. Direct questioning of patients by physicians and nurses regarding OAB symptoms during consultations could lead to earlier identification of these important problems and ensure that sexual satisfaction is addressed with women with over active bladder to improve their quality of life. Further research with a large sample size is needed to confirm the negative effect of OAB syndrome in sexual function of continent women.

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