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The Team Leader Model: an alternative to preceptorship

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KEY WORDS

Students, graduates, supervision

ABSTRACT

Objective

To improve the clinical practice environment for student nurses through an increased understanding of the relationships and of the situations in which that practice occurs.

Setting

Fremantle Hospital and Health Service (FHHS) in partnership with Curtin University of Technology.

Subjects

This project sought to assess a new model of supervision and support based on a team approach, the team being a Registered Nurse, Graduate Nurse and a Student Nurse, that supported students, graduates and staff.

Main outcome measures

To determine if the students clinical placement provided a reality of practice, where the student became the leader of the shift, supervised by the supervisor. To understand the relationships of support between graduate and student nurses, and to determine if the allocation of students via the Team Leader method reduced preceptor burnout.

Results

The Team Leader Model demonstrated that it provided an improved allocation model of student supervisors, students felt a greater sense of reality of practice, and graduates appreciated the support of the Team Leader.

Conclusion

The model has been perceived by staff and students as a practice that can provide for a better clinical practice placement for the student.

INTRODUCTION

The 'Team Leader Model' was introduced at Fremantle Hospital and Health Service (FHHS) in partnership with Curtin University of Technology in February 2006. The initiative for the project was three fold: the ongoing negative feedback from graduate nurses on the support provided by their nurse preceptors, the increasing requests for student placements, and a need to increase graduate (first year registered nurses) positions. This project sought to assess a new model of supervision and support based on a team approach, the team being a registered nurse, graduate nurse and a student nurse, that supported students, graduates and staff. This paper explains the model, describes the changes made as a result of the three year evaluation project which employed the principles of action research and outlines implementation strategies used to support the change process.

BACKGROUND

The preceptor role at FHHS had become limited to a small group of nurses who were permanent staff working full time hours. This led to staff feeling exhausted and dissatisfied with the role, as reported at preceptor training sessions. The ongoing demand on staff to precept was leading to 'stress and burnout' as has been documented within other organisations (Yonge et al 2002, pp. 22). Preceptors found they were often allocated to precept a graduate and student nurse at the same time. This resulted in feelings of abandonment by the graduate nurse as the preceptor's time was spent with the undergraduate, leaving little or no time to assist the graduate. This increased the staff members' dissatisfaction with the preceptor role, which at times led to a negative clinical experience for students and for graduates' dissatisfaction with their program, in particular the level of support offered by preceptors.

This feedback from staff was not unique to Fremantle Hospital. The report 'Clinical Placements of Nurses in WA: A project to assess and improve the quality and scope of clinical education' (Saunders et al 2006, pp. 6) noted that the role of precepting undergraduates:

was identified as difficult to fill, with no obvious advantages or professional benefits for the clinical nurses who undertook it. The role was perceived as overly burdensome, and was often translated as such to students. A lack of recognition for the role, staffing issues, and limited professional benefits from undertaking this role create (d) ongoing difficulties in filling these positions.

As a result of this feedback and a need to increase student and graduate numbers, the position of Staff Development Educator for Student Placements and Preceptorship (changed to Undergraduate Coordinator 2008) was introduced in 2003 with the purpose of implementing an intensive education program to promote and support the preceptorship program.

The preceptorship education program commenced in November 2003 and consisted of a six week (one hour per week) course that was conducted in semi-formal ward based sessions. Single study days were also available. A total of 86 sessions and 18 study days were presented over two years. Over 1,000 attendees are recorded for the ward-based sessions. Despite this intensive program and an increase in staff support for preceptorship, the role still struggled to reach its full potential, with graduate feedback in 2004-2005 continuing to highlight the lack of support they felt from preceptors.

A strategy was required to assist staff as student and graduate positions were increased to combat the workforce crisis of declining numbers of nurses. The Team Leader Model was introduced in 2006 to provide an alternative model of undergraduate supervision that also provided support to new and junior staff. The model sought to reduce the workload on nurses currently working as preceptors and to provide a better clinical placement for students that promoted their development.

The research was coordinated by the Staff Development Educators (SDE) Undergraduate Coordinator Mrs Ann Hobson, Graduate Program Coordinator Ms Kylie Russell (mid program

transferred into Undergraduate Coordinator role job share), and Professor Robin Watts, Curtin University of Technology.

Model

The key elements of the model include:

- moving the responsibility for the supervision of undergraduate students from one staff member, the preceptor, to the ward staff together managing their placement and experience;
- teams of three: a registered nurse as 'Team Leader' and supervisor, an undergraduate student and the third being a staff member who would benefit from additional support e.g. graduate nurse;
- reality of practice - allocation of a patient load to the undergraduate student for the shift;
- inclusion of undergraduate students on continuous practice as ward 'staff' e.g. on roster;
- the support role of ward 'Student Liaison Nurses'; and
- culture change - importance of ongoing staff education.

The following section provides further detail on a number of these key elements.

Students on continuous practice are placed on the ward roster. The manager allocates shifts according to the ward's staff mix. This allows students to experience being part of a roster. They are able to change shifts as required in discussion with the manager, as for any staff member. This promotes a professional accountability in maintaining and negotiating a roster. It accepts that students cannot always follow the same roster as a preceptor due to their own family and work commitments.

On shift the student is allocated a patient load. The student's name is placed on the allocation board/book. This is designed to encourage the student to be the 'doer' rather than the 'follower' in patient care. It encourages the development of time management skills and problem solving. The student is encouraged to take responsibility for planning and implementing patient care for the full shift.

A registered nurse (RN) is allocated as a 'Team Leader' for the shift. Their role is to provide direct and indirect clinical supervision to the student. They sign off as appropriate in the student's workbook for skills and competencies achieved in the shift. Team Leaders wear a badge for the shift so that others know they are in the role. This is to encourage the nurses to identify themselves as being in a different position thereby assisting them to focus on providing supervision rather than the hands-on care. It also reminds other staff to approach the student about their patients directly to encourage the student to develop and gain confidence in their communication skills.

The Team Leader Model is designed to share the workload of student supervision. No one staff member works every shift with a student. The Team Leader concept allows the workload to be shared amongst all staff including part timers and casuals. This reduces stress and workload demands on staff who would normally be allocated as the 'preceptor' for the student's entire practical placement.

A third member of the team can be included in the group. This can be a graduate nurse, junior nurse, orientee, agency nurse, or another student. If the third member of the team is an employee of the hospital or agency the Team Leader provides support for them. If it is another student the Team Leader provides direct and indirect supervision. When the team consists of two students their patient load must be such that the Team Leader is able to effectively provide the level of supervision required.

To support the students in their placement each ward area has two to three Student Liaison Nurses. The role of these nurses is to:

- act as a resource to students when on shift;
- socialise the student into the work group/environment;
- promote the role of students in the ward environment; and
- work as a team leader.

The role of the Student Liaison Nurse is primarily that of a student socialisation agent. This includes

welcoming students, introducing them to the team, ensuring they are included in social functions, enquiring after them to ensure that all is well, a person to ask questions of and a shoulder to lean on after a challenging day. They do not assume the role of the university clinical instructor; they are not to performance manage. Student Liaison Nurses promote students in the workplace, and ensure that the Team Leader is there to support the student. The role also provides feedback to the hospital's Undergraduate Coordinator at the regularly planned meetings. This provides ongoing feedback as a part of the quality management/action research feedback cycle.

A positive attitude towards students is vital to the success of the model. Ward staff, managers and staff development nurses must view students as an asset to the organisation. If students are not viewed in a positive manner staff will be unwilling to allow them to take on an active role and not trust them to undertake the learning opportunities available to them in the clinical placement.

EVALUATION OF THE MODEL

The aim of the evaluation study was to assess how well the Team Leader Model met the needs for which it was designed and to identify the factors that facilitate its effective implementation in the context of a tertiary level hospital. In a more general sense the aim was to improve practice through an increased understanding of the relationships and of the situation in which that practice occurs.

A brief outline of the research process has been included.

Method

Action research was selected as the most appropriate methodology for the study. The purpose of action research is "to inform and change practice and develop understanding of the particular context in which it takes place" (Reed 2005, pp. 595). For these reasons Daniel et al (2002) suggested that action research is appropriate for developing and evaluating educational initiatives for university nursing programs, noting that as this type of research

is collaborative it can also provide the incentive to reach conclusions that "are comprehensively grounded in the perceptions of those working in a particular social context" (pp. 90). Its purpose is to produce 'practical knowledge' that is useful to those using it every day (Reason and Bradbury 2001, pp.2).

Action research in the clinical education setting involves the identification of an area of educational practice that requires change, the generation of ideas to improve current practice and the evaluation of these ideas in practice. Koch et al (2004) state that this should begin with the question 'How can I improve my practice?' with the process then being cyclical in nature: plan, implement, and reflect. Employing an action research design for this study ensured the workability of the model for the practitioners and facilitated their ownership of the outcomes through their ongoing involvement and contribution (Avison et al 1999, pp. 95).

A participatory action research method was utilised. This method involves the participants within the research process. They identify the problem, and decide ways to change. Researchers play a facilitator role (Reason and Bradbury 2001).

Process

A number of phases for the project occurred:

Phase One Implementation of new model - pilot group, May 2006

Phase Two Data collection and analysis (feedback) - site visits, observation, CNM, ward meeting

Phase Three Review of model, discussions with staff and CNM, slight modifications

Phase Four Implementation of reviewed model, August 2006

Phase Five Data collection and analysis (feedback) - forms, focus groups, reflection, site visit, observation, CNM

Phase Six Review of the model, discussions with staff and manager - no recommended changes

Phase Seven Ongoing review of the model, discussions with staff, manager, and clinical supervisors - no additional recommended changes to date.

Sample

The piloting of the Team Leader Model commenced in March 2006. Two wards were used for the collection of data. Both were surgical wards with two different models of care; primary nursing and team nursing. Staffing on the first ward was very good whilst the latter had a severe shortage of staff. These two wards were utilised throughout the four year evaluation.

Students: Six participants - 7th semester Curtin University registered nurse students (ten week placement).

Graduate Nurses: Six participants (to match student number) on their first rotation.

Team Leaders: staff fulfilling the role were identified by the ward manager on the roster with the initial 'TL'. All staff consented to undertaking the role, with allocations organised by the manager when rostering.

Informing participants

All participants received detailed information on the study via tailored information sessions and handouts by the SDE for undergraduate placements and graduate program. Information sheets and consent forms were given at this time to all study participants and collected prior to commencement.

Data Collection

In line with Avison et al (1999) and Nieswiadomy's (1998) recommendations in respect to action research, a number of data sources were included to ensure a valid explanation of the practice being evaluated. The methods of data collection over the four year period included both written and verbal feedback and observation.

- **Feedback Forms (2nd evaluation cycle only)**

A feedback box was provided in each ward into which participants were asked to place a comment after each rostered shift. Feedback boxes were emptied each week by the SDE's. The information obtained was transcribed into table format to provide a weekly report. This also ensured that any feedback indicating the need for an immediate response could be actioned.

- **Site Feedback**

The Graduate Program Coordinator visited the ward weekly for feedback from the staff, in particular from the graduate nurses. The Undergraduate Coordinator and the Clinical Liaison Academic Support Person gathered comments relevant to the study from students and team leaders in their usual daily interactions. In all cases this feedback was recorded in note form.

- **Group Feedback (2nd evaluation cycle only)**

A session for the students was held in the week prior to the mid placement break of one week (week five). It was designed as a debrief session for the students and as an opportunity to gain an understanding of how they were feeling at this stage in the placement. The session was coordinated by the two SDEs. The discussion was taped and transcribed.

- **Observations**

During the ward visits the research staff also noted any observations relevant to the study including interactions between team members. Given the importance of context in action research, relevant contextual information was also sought and noted.

- **Reflection (2nd evaluation cycle only)**

In order to obtain the students', graduates' and team leaders' reflections on the placement and the model, focus group were held at the completion of the ten week project. These consisted of small groups of five to ten participants. All participants were invited to attend. The session was facilitated by the SDEs. Each session involved a number of semi-structured questions based on the study objectives. These guided the discussion while allowing for more detailed exploration of points raised. Sessions were recorded on audiotape and later transcribed verbatim. This was checked by both SDE's to ensure accuracy.

- **Manager feedback (CNM)**

The CNM's were asked for feedback throughout the project and on completion. This was logged, mainly through email. The information sought related primarily to the role of the CNM in the model and

their view and that of their staff on its workability and impact on the ward.

- **Ward meetings/Inservice**

Both SDEs regularly visited the ward meetings and provided ongoing inservice education which provided an opportunity to discuss the model and seek further feedback. This also ensured new staff working in the area were informed of the project.

Data Analysis

A simple content analysis of the qualitative data obtained was undertaken to identify themes and patterns, positive, neutral, and negative, in the summaries of the written feedback, transcripts of the focus groups and the researchers' field notes. Analysis of the data involved examining "words, descriptions and processes" (Borbasi et al 2004, pp. 148) as the documents were read and reread a number of times. This process is called "data immersion... (which) lets the researcher get in touch with not only the content but also the feeling, tone and emphasis being communicated (Borbasi et al 2004, pp. 148).

The rigour of the study was ensured by several strategies. Participants were provided with the opportunity to review the draft findings e.g. the three staff who documented field notes verified the contents of their summary to ensure a valid interpretation. In addition the data collection and analysis processes were documented in detail allowing an audit trail to be established.

FINDINGS

The pilot group in May 2006 received positive feedback from the managers, staff and students. It was agreed to continue with the model. Modifications were made with the second rotation in August 2006: individual student rosters and Student Liaison Nurses. The model continues to date as presented in this paper.

The outcomes of the four year evaluation have supported the model. All the participants were positive about their experience and the evaluation confirmed the key elements of the model, with some

additions and improvements that could be made in its implementation.

From the students' perspective

- Encouraging the student to take responsibility for a patient load provided the opportunity for students to learn the essence of nursing, time management skills, interpersonal communication skills, critical thinking and to develop self confidence. Student feedback highlighted that they were of the view that they had achieved more in their first two weeks of this placement than they had in their entire program.
- Working with different staff highlighted the different approaches to the tasks and patient assessment. This highlighted that, whilst nursing policy and procedures must be adhered to, nurses may still apply subtle differences in how they approach these.
- Frustrations existed when allocated a nurse who would not facilitate learning opportunities. However students appreciated that they all rotated through the different staff, thereby sharing supportive and non-supportive RN's as teachers.
- Working in a team environment with the graduate nurse allowed students to see where they would need to be in their development on the completion of their degree and what to expect as a graduate. It also provided graduate nurses with the opportunity to reflect on their own development and growth. Both being new to the environment and novices in their practice, this relationship provided a familiarity and the opportunity to discuss feelings, concerns, and achievements with each other.
- Individual rosters allowed flexibility of shifts. Students were able to easily negotiate changes with the ward manager. This allowed for greater flexibility with family and work commitments.

Graduates' feedback

- Graduate Nurses benefited from team membership by the ready availability of a more experienced RN. Rather than walking the corridor looking for

someone to ask, particularly when first starting on the ward and orientating to the environment, the Team Leader provided a primary link to the resources available. The role of the Team Leader in this context was to support through answering queries, directing to other resources, and helping with procedures and patient care when time permitted.

Team leaders' views

- Reduced workload of student supervision as not allocated to this role for every shift over the student's placement.
- The responsibilities of the Team Leader were over-emphasised by the participants, with most staff feeling they needed to provide more support than what was outlined for the graduate nurse. Staff were reminded that prior to the Team Leader Model this resource was not available, and the role was not intended to be that of a supervisor of the graduates.
- Team Leaders who felt they had provided adequate supervision or support to the student and graduate reported a positive shift in terms of the patient care delivered, organisation of the shift and feelings of a good day at work. The main facilitator of this perception was the allocation of an appropriate patient load. As a result students felt they had been given the opportunity to practice within their scope with the security of a Team Leader. This provided more opportunities for learning the essence of nursing and provided a sense of achievement.
- Concerns related to the model included the allocation of workload. There is often the perception that with a student and team leader allocated to an area the number or complexity of patients can be increased; this fails to allow the student to work within an appropriate workload and sets the student up for failure.
- Feedback from the team leaders indicated that with an appropriate patient load they were able to provide beneficial levels of supervision. Students were encouraged to manage the workload

allowing the team leader time to observe and advise on appropriate nursing care. As the students' confidence and abilities continued to increase during their placement, team leaders often found themselves offering support to all members of staff.

- Staff felt more supported when a student was not demonstrating competence as other staff working with the student could support this assessment and feedback.
- Graduates were not always allocated to work in the team. This depended on the team leader and the graduate on shift. It was felt that the students were the priority of the team leader and that graduates had other support networks in place (in 2008 additional supernumerary resources were provided for graduates).

Clinical Instructors

- At times it was more time consuming obtaining feedback as multiple staff had worked with the student. However this provided a better overall picture of the student's progress as information could be corroborated.
- If a student was struggling it was sometimes necessary to allocate one staff member to provide continuity. However this was generally not a problem as a staff member usually offered to undertake this role.
- Students needing to change shifts or with special requirements were easily managed as this was a simple roster change.

Observations re culture change

Placing students in busy hospital wards, units and departments has always been met with some anxiety. The perception of the increase in workload and students' lack of skills resulted in many staff declining students or insisting on their numbers being reduced. It has been through the intense staff education program and support by the Undergraduate Coordinators in their ward visits that this culture has started to change. Both of the hospital's Undergraduate Coordinators involved in the project from its conception reported witnessing

a change in staff perception of the value of students. Comments made in focus groups and on visits to the wards highlighted the sentiments of staff and managers. These comments indicated that some staff still hold negative opinions and find it difficult to accept that students can be of benefit in the workplace. This same group were observed to be those finding it difficult to allow the student to take ownership of the allocated patients' care.

A number of strategies have been adopted to support the ongoing implementation of the model:

- Facilitating culture change. In the continuing staff development program staff are upskilled to work with students and first year nurses. Topics include communication skills, leadership skills, theory to practice, and the principles of adult learning. Students and graduates are promoted as an essential component of the workforce.
- Introduction of Student Liaison Nurses (introduced after pilot study).
- The need for this role became evident in the findings of the initial evaluation of the model. Expressions of interest were called for and within a month 72 nurses volunteered for the role. Second monthly meetings are held to provide the group with appropriate education and a forum to discuss placements.
- Staff Education and Support. In addition to the more generic content of the staff development program outlined above, orientation and inservice sessions continue to be provided for staff new to the model. Guidance sheets and posters are displayed in the wards.
- Staff are also encouraged to attend the modular sessions of 'Fundamentals of Supervision', 'The Principles of Adult Learning', and 'Introduction to Teaching Clinical Skills and Providing Feedback'.
- Student Orientation. The Undergraduate Coordinator meets with the students on their orientation/first day in the hospital. The model and how it will impact on their placement is explained.

CONCLUSION

It was anticipated that the Team Leader Model of Clinical Supervision would demonstrate the following benefits:

- improve the management and the quality of the clinical experience of the student on continuous practice for their final placement;
- facilitate an improved clinical placement experience that would translate into a graduate better orientated to the hospital and able to transition into the new graduate role;
- better support ward staff in their clinical supervision and teaching of students and graduates;
- allow part time and casual staff to participate in the supervision of students; and
- by sharing the role of student supervision, reduce staff burnout.

The evaluation study demonstrated that the model met the aim and objectives that it set out to achieve. Staff and student feedback on the project indicated that the Team Leaders not only enjoyed working with the students but also appreciated the assistance they had given the ward staff in managing patient care.

The model has been perceived by staff as a practice that can provide for a better clinical practice rotation for the student. This improves the readiness of the student for their imminent role as a Graduate Nurse. For ward staff the model reduces the stress of supporting students and new graduates in the workplace. The Team Leader Model can be introduced to any hospital area as a strategy to help reduce staff burnout whilst promoting the value of undergraduate students.

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Nursing and midwifery research grants: profiling the outcomes

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KEY WORDS

Nursing and midwifery research, research funding, evidence based practice.

ABSTRACT

Objective

To profile the outcomes of nursing and midwifery research that was conducted as a result of a research grant program administered by a nursing and midwifery regulatory authority in Australia between 1996 and 2010.

Design

A cross-sectional electronic survey relating to research grant outcomes.

Setting

The survey was open to all past and present research grant recipients in Australia.

Subjects

The survey was completed by 71 past and present research grant recipients from across Australia.

Main outcome measures

Survey findings.

Results

Thirty three percent of nursing and midwifery researchers who were funded through a grant program are engaging in research that has implications for the advancement of clinical practice, nursing and midwifery education, indigenous health, mental health, child health, rural and remote nursing and midwifery practice and technological advancement in health care.

Conclusion

The findings indicate that nursing and midwifery researchers are conducting a broad range of research studies that contribute to professional development and to health care in general. Respondents demonstrated the benefits of their research projects through clinical practice improvements, policy changes and through professional networking that contributed to the critical mass of nurse and midwifery research based knowledge. Most respondents disseminated their findings through various media on a national or international basis. The survey findings demonstrate the importance of a continuing commitment to nursing and midwifery research by relevant organisations.

INTRODUCTION

The Queensland Nursing Council (QNC) has administered a research grant program since 1996. Funding for nursing and midwifery research has been distributed annually through grants to successful applicants in four categories of research. In addition, every two years a Florence Chatfield grant was awarded to encourage nursing and midwifery researchers to establish collaborative funding partnerships with other entities. Florence Chatfield (1867-1949), was the first nurse appointed to the inaugural Queensland Nurse's Registration Board. Miss Chatfield is honoured for her contribution to the advancement of nursing and midwifery. In 2004, a separate award category, the Florence Nightingale grant, was created when additional funding became available in that year only.

Subsequently, a total of 134 research grants were funded in the following categories: novice researcher ($n=60$); early career researcher ($n=11$); research implementation ($n=3$); experienced researcher ($n=49$), Florence Chatfield ($n=10$) and Florence Nightingale ($n=1$).

The total value of all grant funding is \$1,965,045.00, or almost two million dollars. However, the research grant program may cease from July 2010 due to the transfer of state and territory nursing and midwifery regulation into a national health profession regulatory scheme. Accordingly, it was timely to conduct a survey aimed at profiling the outcomes of research support provided through the research grant program.

Nursing and midwifery led research is a relatively new area within the professions and several barriers that discourage nurses and midwives from pursuing research have been identified. Green et al (2006) and others examined a university department's approach to building research capacity and reported lack of confidence in undertaking research by neophyte nurse researchers as a barrier to pursuing research. The authors identified the need for more formal support structures. While the study was limited in scope, the findings supported earlier research that explored the research-practice gap by surveying 317 nurses working in a major Australian teaching

hospital and identified similar barriers (Hutchinson and Johnston 2004). Other studies have cited leadership support as a critical component in successful research development (Henderson et al 2009; Chummun and Tiran 2008; McCance et al 2007).

In recognition of the research skill and support deficit, Tagney and Haines (2009) proposed a research framework that included linkages between clinical practice and academia and incorporating nursing research into education programs and mandatory training. This type of framework offers a formal support structure for nurse and midwifery researchers.

Despite the barriers, there is evidence that nurses and midwives are fully engaged in research activities. Borbasi and others analysed 509 nursing based research articles from eleven Australian and United Kingdom (UK) nursing journals that were published between 1995 and 2000 (Borbasi et al 2002). In their analysis, the authors noted that education was the most popular focus of research and that qualitative method (47%) was more popular than quantitative method (41%) among nurse researchers. Only one study reported using a randomised control trial (RCT). The authors noted that most nurse research funding was sourced from professional nursing associations (42%) with only 5% of nurse-led research funded through national competitive grant schemes. Very few studies were focused on national health priorities. The authors concluded that nurses and midwives would have a greater influence on population health if their research was aligned with national health priorities. While the Borbasi et al's (2002) study was limited by restricting article analysis to generalist journals, the scope of the study provided a comprehensive snapshot of nursing and midwifery research and encouraged nurse researchers to pursue clinically relevant research.

Borbasi et al's (2002) study echoed an earlier study by Traynor and others that was narrowed to an analysis of published UK nursing research. In the UK study, the authors found that nursing research tended to focus on 'endogenous' rather than on 'exogenous'

research (Traynor et al 2001). Endogenous research was described by the authors as research that focused on nursing as a profession rather than on patient centred outcomes.

A paper by the same authors reported that nursing research in Europe was significantly underfunded in comparison to other comparable professions and was also under funded in relation to the size of the profession (Rafferty and Trayner 2004). The authors noted that education research receives as much as 4.5 times funding as nursing research. In their conclusion, the authors proposed that nursing research, as a collective, should ensure that the current upward trajectory in the growth of nursing research is continued by achieving greater commitment from funding sources and networking initiatives.

Despite organisational barriers and lack of funding, there is no doubt that there are considerable benefits to be made from nursing and midwifery research based initiatives in terms of direct and indirect cost savings (Buxton and Hanney 1996; Rafferty et al 2003). Moreover, nurses and midwives are ideally placed to make significant contributions to improving health care outcomes (Fitzsimons et al 2006; Swenson-Britt and Reineck 2009).

Accordingly, this survey was aimed at profiling the contribution made to health care and to the nursing and midwifery professions by researchers who were supported in their endeavours by funding from the QNC.

METHOD

The cross-sectional survey consisted of the distribution of a twenty-one item electronic questionnaire. Respondents were required to assess the impact and benefit of the research grant on nursing and midwifery knowledge, practice, and/or education and on the professional value of receiving funding support for their project.

Study participants

A total of 71 research grant recipients participated in the survey. The total number of recipients per award was three hundred and seventy eight (378)

recipients. Several recipients received more than one award, either for different award categories or in different years. Therefore, the total target group for the survey was three hundred and fourteen (314) grant recipients. Questionnaires were distributed to the two hundred and fifteen (215) grant recipients who were contactable.

Data analysis

Frequencies were calculated using the survey tool data analysis function. Frequencies provided an actual count as well as the computation of the percentage of individuals selecting each response category for a specific questionnaire item. Qualitative data was analysed using thematic analysis. Each response was individually coded; subthemes were identified and were then clustered into major themes.

ETHICAL CONSIDERATIONS

Ethical approval was received from the QNC.

RESULTS

Results are presented in four domains: demographic data, award category and research focus, research grant impact and qualitative findings.

Demographic data

The majority of respondents were female (91.4%), with males comprising 8.6% of respondents. Ninety three per cent (93 %) of respondents were nurses and 7% were midwives.

Age groups were categorised as: 20-29 years; 30-39 years; 40-49 years; 50-59 years and 60 years and older. The majority of respondents were in the 40-49 year age group (38%) followed by the 50-59 year age group (29.6%), the 30-39 year age group (19.7%) and 12.7% of respondents were from the > 60 years age group. No responses were received from the 20-29 year age group.

Award category and research focus

The majority of respondents were awarded a novice researcher grant (56.3%). The remaining respondents were awarded research grants in the following categories: experienced researcher (21.1%), early career researcher (18.3%), research implementation grant (2.8%), Florence Chatfield grant (8.5%) and Florence Nightingale grant (1.4%).

There was a relatively even spread between respondents who pursued a quantitative method (39%) and respondents who conducted qualitative research (37%). Thirty one per cent (31%) of respondents employed a mixed methodology.

Quantitative methods included: descriptive (45%); case study (14.3%), cohort (17.9%), correlational (12.5%), pre-test/post-test (21.4%), randomised controlled trial (26.8%) and time series (10.7%). Two projects utilised structural equation modelling and instrument development.

Qualitative researchers employed: focus groups (36.6%); participatory research (24.4%), phenomenology (22%), action research (17.1%),

grounded theory (12.2%), Delphi (7.3%), ethnography (5%), thematic analysis (2%), phenomenography (1%), combined interview/focus group (1%), hermeneutics (1%), narrative (1%) and constructivism (1%).

For reporting purposes, projects were categorised into four streams: clinical practice, education, management and research. Research projects focused on clinical practice (71.6%), research knowledge generation (52.5%) and education (19.4%). Projects with a focus on health system, infection control, leadership and patient flow were categorised as 'Management'. A selection of examples of research focus is outlined in table 1.

Table 1: Major research focus - examples

Focus	Clinical Practice	Education	Management	Research
Sub categories	Cancer/oncology	Caregivers	Health system	Attitudes/Ethics
	Culturally appropriate care	Education	Infection control	Evaluation research
	Evidence based practice	Health promotion client/patient	Leadership	Patients/Student experiences
	Models of care	Health promotion nurse/midwife	Patient flow	Personal experiences
	Nursing role/scope of practice	Professional development	Technology	Internationalisation of nursing Australia
	Decision making			

A majority of researchers agreed that their research project was not difficult to complete (69%). Barriers encountered included workload (55%) financial reasons (18.2%), lack of organisational support (27.3%), lack of resources (27.3%) and staffing (9.1%). The benefits of funding outcomes are outlined in table 2.

Most respondents presented their findings to a national conference (73%) or to an international conference (42%). Sixty seven per cent (67%) were published in a peer reviewed journal, or other journals (25.5%), an international journal (26%) or a national journal (9%). Dissemination methods are portrayed in figure 1.

All respondents believed or 'hoped' that their project made a positive contribution towards health care (100%). It is beyond the scope of this paper to list all project outcomes. A selection of examples describing the contribution to health outcomes is outlined in table 3.

Table 2: Benefit of the research grant

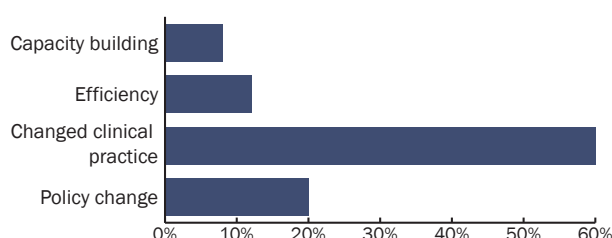


Figure 1: Dissemination of findings

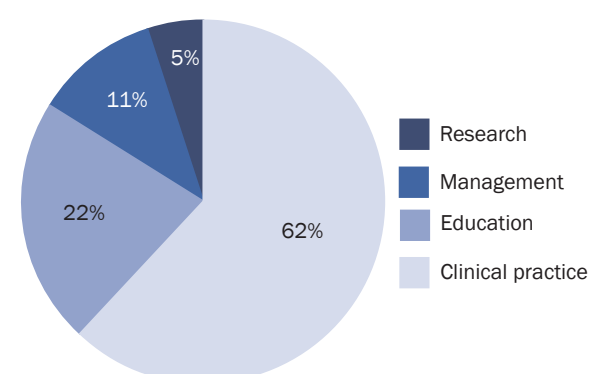


Table 3: Contribution to health care

Field/Area	Examples of health outcomes
Best practice	Timely removal of indwelling catheters/intravenous peripheral catheters Competency standards for palliative care nursing practice
Indigenous health	Recruitment/retention of indigenous nurses Improving the indigenous student's tertiary experience
Mental health	Development of Brisbane Postnatal Depression Index Evaluation of benefits of exercise for people with dementia
Midwifery -related	Identification of challenges of new fatherhood Optimal management of third stage labour
Education	Evaluation of a preceptorship model Clinical leadership strategies
Paediatric/Child health	Clinical pathway for bronchiolitis Paediatric pain management
Rural/Remote	Understanding rural women's cancer survivor experiences Identification of gaps in rural health services
Technology	Computerised adult triage tool for use in emergency areas Enhanced point of care data collection

Table 4: Emergent themes

Major Theme	Supporting statements
Sense of achievement	<i>The professional acknowledgement that I was undertaking a project that was judged as being able to contribute to the nursing profession by a peer review panel of experts</i> <i>Recognition that midwifery research is valued</i>
Health promotion	<i>Development of a course on women against violence</i> <i>Provided an opportunity for participants (spouse/partners of people with schizophrenia) to have a voice and be heard</i>
Identified a health problem	<i>Provided an understanding of why smoking continues to be a problem in the mental health setting</i> <i>Provided insight into the experience of patients undergoing peripheral blood stem cell collection</i>
Enabling project	<i>Provided ability to conduct research into a very important part of paediatric practice</i> <i>Without funding the research would not have been undertaken</i>
Knowledge building	<i>Explored an area of nursing that had never been explored previously</i> <i>Contributed towards understanding the needs of new fathers</i>
Improved practice/policy	<i>Showed that a simple educational package can benefit carers of people with dementia</i>
Capacity building	<i>Paved the way for a research program that focuses on resilience and chronic illness including cancer</i>
Networking	<i>Developed a body of knowledge that I could share and commence building a professional network</i>

Qualitative responses

Emergent themes relating to the most significant benefit/aspect of the research grant were categorised into major themes with examples of verbatim supporting statements as outlined in table 4.

DISCUSSION

The respondent demographics were representative of current demographics among the nursing and midwifery professions. In Australia, 90.4% of the nursing profession is female and 33.0% of the

nursing workforce is aged over 50 years, with an average age of 43.8 years (Australian Institute of Health and Welfare (2009a)). Most respondents in this survey were female, more likely to be employed as nurses/nurse academics than midwives and were aged between 40 and 49 years. Respondents in the 'over sixty' age group were well represented, indicating that researchers in the older age group continue to make significant contributions to the nursing and midwifery body of knowledge. The lack of response from the younger age group may reflect the need to consolidate a clinical career or balance career with personal commitments.

Randomised controlled trials (RCTs) and pre-test/post-test were prominent among methods adopted by quantitative respondents. This finding contrasts a study on nursing research published by Australian authors between 1995 and 2000. In their review, the authors found that only one of 509 studies included an RCT (Borbasi et al 2002). The frequency of RCTs conducted by respondents in this survey is indicative of the rising trend towards evidence-based practice in nursing and midwifery.

Focus groups were a popular qualitative method, followed by participatory research, action research and phenomenology. Nurses and midwives are reported to be drawn to phenomenology as a method of enquiry (Balls 2009). These approaches are closely related to professional and ethical philosophies underpinning nursing and midwifery practice and reflect a desire to understand the health care experiences of patients/clients.

More than one third of respondents focused their research on nursing and midwifery staff. These findings are consistent with literature reporting that most nursing research is 'endogenous', or profession focused, rather than 'exogenous', or patient centred (Trayner et al 2001). The findings are also consistent with an international comparative analysis conducted by Polit and Beck (2009), which analysed the characteristics of 1,072 nursing research studies from eight leading English speaking-language research journals in 2005 and 2006. The authors noted international differences existing in the conduct of nurse led research and concluded that nurses in

Europe, Australia, and Canada tended to focus on nurses, compared to research in Asia and the United States of America where research tended toward a patient focus.

A major focus of the 'endogenous' research by respondents was on clinical practice. This finding suggests that a majority of respondents were examining what it is that nurses and midwives are doing, and how care is delivered which must, arguably, be patient focused. Research projects with a management focus were often centred on health care systems, for example, patient flow (admission, transfer and discharge) and technologies, or on leadership, which all filter down and impact on clinical practice and thus, could be considered as indirectly patient focused.

Surprisingly, very little research focused on national health priorities which are: arthritis/musculoskeletal, asthma, cancer control, cardiovascular, diabetes, injury prevention, mental health and obesity (Australian Institute of Health and Welfare (2009b)). In this survey, research that focused on cancer control and mental health were the only projects that correlated with national health priorities. Borbasi and others advocate for greater alignment of nursing research with national health priorities in order to secure the place of nursing in health research (Borbasi et al 2002; Pearson 2004). Nursing and midwifery researchers may be well advised to consider a closer association between their research projects and national health priorities in order to maximise access to available funding.

Most respondents agreed that their project was not difficult to complete. Workload and lack of organisational support were reported as the most frequent difficulties when encountered. These findings were consistent with literature reporting that the implementation of nurse led research is often strongly influenced by high workloads, lack of time and organisational culture (Green et al 2006; Tagney and Haines 2009). The reality is that not all health care organisations consider research within their business planning strategy and nursing and midwifery researchers are often left to flounder without support (Fitzsimons et al 2006).

Despite organisational barriers, the positive 'payback' from nursing research has also been reported in the literature. Buxton and Hanney (1996) identified several benefits from research including knowledge generation, workplace efficiencies; cost savings attributed to a healthier workforce and better decision making based on up to date information. These types of benefit were acknowledged by respondents in this survey.

A majority of respondents presented their findings at a national conference, were published in a peer reviewed journal or in an international journal. A significant number of respondents presented their findings to an international audience. The results reflect the maturity of Australian nursing and midwifery research and its ability to make a significant contribution to research based knowledge on the world stage.

Not surprisingly, all respondents identified that their project made a positive contribution toward professional development and towards health care in general. Research projects have resulted in improvements to educational programs for nursing and midwifery students, identification of gaps in service delivery with recommendations for improvement, improved nursing and midwifery practices, technological advancement in nursing and midwifery care and a greater understanding of the patient experience when accessing the health care system. All of the research outcomes reflect the many positive contributions to health care that research grant recipients have made.

Themes explicated from the qualitative results of this survey demonstrate that several of the funded research projects led to a change in practice and/or policy, contributed to health care knowledge or provided the impetus for further research. The findings from this survey support recommendations from literature proposing that nursing research should be aligned to the notion of care (Cox 2009). There was clear evidence from the outcomes generated by respondents that research projects were centred on a notion of care, whether directly or indirectly provided to health care consumers.

Lack of funding was a concern addressed by respondents whose statements echoed one assertion that, funding for nursing is not readily available. The comments are supported in literature recognising that nursing and midwifery research is underfunded (Polit and Beck 2009; Cox 2009; Pearson 2004). Where funding has been made available, it is often sourced from professional nursing associations (Borbasi et al 2002). The reality that very little funding is available for nursing and midwifery research provides a strong argument for professional nursing and midwifery organisations to take up the challenge and consider the overall benefits to the profession and to health care consumers in providing funding for nurse and midwifery research.

CONCLUSION

The survey results indicate that nurse and midwife researchers are conducting a broad range of research studies that make a significant contribution to development of the nursing and midwifery professions and to health care in general despite workload and other barriers. Respondents were able to demonstrate the benefits of their research projects through changes to clinical practice, policy change or through the formation of professional networks that contributed to the critical mass of nurse and midwifery research based knowledge. Moreover, most respondents were able to disseminate their knowledge and research findings through various media on a national and international basis. The results of this survey demonstrate the importance of a continuing commitment to nurse and midwifery led research. An ongoing commitment to nursing and midwifery led research will ensure that health care recipients are provided with up to date evidence based practice. Continued support for nursing and midwifery led research will sustain the current ability of Australian nursing and midwifery researchers to make an important contribution to health care on an international level, thus contribute to improvements in health care on a worldwide basis.

Limitations of the survey

The response rate of thirty three per cent (33%) was relatively low. This was attributed to survey distribution towards the end of the academic year

which, in retrospect, was not the optimal time to survey a population group that included a high proportion of academics. The low response rate would normally limit the ability to extrapolate the results of this survey to nursing and midwifery research in general, however, the correlation between the results of this survey and findings reported in literature provide some support that the results, with caution, may provide a generalised picture of nursing and midwifery research in Australia.

Recommendation

This survey demonstrates the value of funding for nursing and midwifery and supports the recommendation that organisations or agencies that have an interest in health related research consider setting aside financial resources on an annual basis towards the provision of funding for future nursing and midwifery research.

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The adaptation of probation period of employment on the Aboriginal nursing graduates in Taiwan

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KEY WORDS

aborigines, employment, new graduates, nursing
education, adaptation

ABSTRACT

Objective

The purpose of this study was to explore the adaptation of probation period of employment on Taiwanese aboriginal nursing graduates in health care institutions.

Design

A cross-sectional, descriptive design using a questionnaire was employed.

Setting

The setting for the study was an institute of technology in Taiwan offering five-year, two-year, four-year and graduate vocational nursing program.

Subjects

Taiwanese aboriginal nursing student graduates (n=145) were recruited for the study.

Results

Results of this study showed out of 21 items in clinical familiarity, only one item 'realised organisation culture' score was fewer than three (out of four). Most graduates felt confident in their job after the three month probation period. All aboriginal nursing graduates felt certain levels of influence in health, leisure activities, social activities, appetite, and sleep. They also expressed a delay of thirty minutes to up to four hours, in completing their scheduled shift. When facing difficulties in their work, they were willing to actively search for solutions. Talking to someone or partaking in leisure activities were two major methods of coping with stress for these graduates.

Conclusion

The results of this study show that the impression of nurse educators and clinical managers that aboriginal nursing students are less adapted in clinical settings than their non-aboriginal peers may be unfounded.

INTRODUCTION

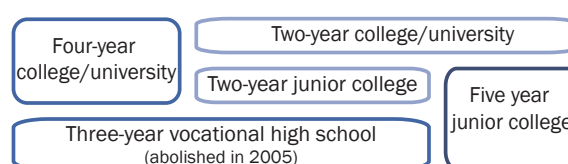
Traditionally, Taiwanese aborigines were a minority, were isolated, and were self-sufficient. Over the past few hundred years, the aboriginal Taiwanese population encountered waves of colonial domination, which resulted in the breaking down of their economic, cultural, and social life. Followed by economic development and lack of concern about aborigines' daily life from Taiwan's academic communities, aborigines had difficulty in obtaining employment (Chi 2005). Therefore, the unemployment of aborigines became an important issue to the government of Taiwan. According to the Council of Indigenous Peoples, Executive Yuan, R.O.C., the unemployment rate for aborigines was 5.76%, which was higher than non-aborigines 4.41% (2004). The education level of aborigines attending associate degree programs or above was 12% compared to non-aborigines at 27%. The aboriginal people comprise approximately 2% of the total population in Taiwan.

Due to long term passive interaction with an external environment, mal-adaptation, and lack of future plans, aboriginal students felt frustrated with their self-integration and self-development. There was less desire and willingness to learn. There was lower academic achievement, which led to a higher dropout rate, lower advancement to higher education, lower adaptation ability, and lower competition ability. This weakness was substantial in forming a vicious circle of becoming a disadvantaged minority.

In view of aborigines as a disadvantaged minority, the Ministry of Education, R.O.C. authorised a private nursing college for females only to undertake a study on female aboriginal adolescent education in order to promote their education level and employability. Since 1994, this focused aboriginal school has held a special entrance examination independently and recruited 100 to 400 female aboriginal students from various remote areas for a five-year junior nursing program. All tuition fees, miscellaneous fees, and living expenses were funded by the chairman of the school.

Hospital nursing managers reported aboriginal nursing graduates had difficulty in clinical performance and their turnover rate was higher than non-aboriginal nursing graduates. In order to retain these aboriginal nursing graduates and avoid educational resource waste, it is important to have a better understanding about these aboriginal nursing students adaptation ability during their first three months of employment.

Figure 1: Technological and vocational system in Taiwan



LITERATURE REVIEW

Nursing education is often described as idealistic. When a new graduate enters a health care institution, he or she, is faced with a situation in which the idealised role is in conflict with the working role of professional nurses. The new graduate experiences frustration when unable to fulfil personal and organisational practice expectations. The result is, 'reality shock'! Hospital accreditation statistics from the Department of Health in Taiwan revealed that the average turnover rate of nurses in Taiwan was 15%. Some hospitals' turnover rates were as high as 40% (Department of Health 1992). There have been no further statistics released by the Taiwanese government since 1992. The reasons for nurses leaving the workforce were work pressure, mal-adaptation, being unable to work night shift, and changing shifts too often (Chen et al 2006; Chen et al 2005; Chen et al 2000; Wang 1997; Yin 1991). There were few studies on recruitment and retention of minority nursing students and none about their employment adaptation (Abdur-Rahman and Gaines 1999; Campbell and Davis 1996; Fletcher et al 2003; McManemy 2002; Young et al 1994). Therefore, it is important to understand aboriginal nursing graduates' employment status.

Learning Attitude of Aboriginal Students

Poor academic performance, especially by Taiwanese aboriginal students, is often attributed to the lack of a mainstream cultural experience or poor socioeconomic status. Aboriginal students had a more apparent spirit of adventure and curiosity, but were weak in imagination (Hu and Lu 2005). According to Liao's study (1999), only one-tenth of aboriginal nursing students handled schoolwork with ease. The other nine-tenths of aboriginal nursing students felt different levels of stress from schoolwork. Even though the adaptation ability of life in aboriginal students was higher than non-aboriginal students, they had poorer study habits than non-aboriginal students and lacked motivation to learn (Hsu and Yang 2009; Lee 1999). Lack of confidence and learning difficulties were other issues for aboriginal students (Chi 2000; Wu 1994).

Due to cultural differences, language obstacles, and different thinking processes, learning became more difficult among aborigines (Tsai 1996). They are more active and like dynamic activities. So it was difficult for them to sit down and study. They had less motivation or even no interest in studying (Huang 2000). Even though aboriginal students' performance was poorer than non-aboriginal students, their intelligence was not less. The difference was in their thinking process (Lee 1999). Therefore, it is important for teachers to know aboriginal students' characteristics and to design different teaching methods for these students. There were some successful cases. According to Yang's study (2001), though the educational experience of five female aboriginal students in Sunrise Teacher's College had suffered racial discrimination from teachers and peer groups in schools, positive school achievement, and family support provided them the power to continue their study. School achievement motivated their learning and self-confidence.

Adaptation Ability of Aboriginal Students

When aboriginal adolescents who lived family life in a tribe enter into an educational system led by ordinary Chinese, they endured the pressure of combining two different cultures. Under a different value system, they had to adjust their learning attitudes, thinking processes, and behaviours in order to adapt the role

expectations from mainstream culture (Huang 2000). Due to differences in life style and background, aboriginal students, as minorities, felt pressure when facing non-aboriginal students and teachers (Hong 2000).

In order to assess the differences of psychiatric symptoms and unhealthy life styles between aboriginal and non-aboriginal adolescents, Li and Chang (1999) surveyed 27 classes of high school students from nine high schools in Eastern Taiwan. The results revealed that psychiatric symptoms were more common among non-aboriginal students, with depressive-anxiety being the most prominent symptom. Daily life stress was the major issue. Unhealthy behaviours were more common in aborigines such as smoking, betel nut chewing, and consumption of wine. These were also influencing factors for aboriginal students' adaptation to mainstream culture. Therefore, different interventions should be used for adolescents of different ethnic groups. Helping non-aboriginal adolescents cope with stress and preventing an unhealthy lifestyle among aboriginal adolescents should be considered equally important.

Even though aboriginal students had better life adaptation abilities than non-aboriginal students, they lacked good reading habits and had poor motivation to learn. They were influenced by peers more easily, reacted more emotionally, and were much quicker to behave irrationally. There were no significant differences in interpersonal relationships and learning adaptations between aboriginal students and non-aboriginal students (Lee 1999). When getting along with non-aboriginal students, these aboriginal students showed insufficient self-confidence. Only one tenth of aboriginal college students could manage schoolwork with ease and the other nine tenths felt different degrees of pressure (Liao et al 1999).

Clinical Performance of Aboriginal Nursing Students

The Chen, Shih and Yu's (2000) study showed that aboriginal nursing students' self-evaluation was lower than non-aboriginal nursing students' before

the clinical preceptorship program, but was higher than non-aboriginal nursing students in nursing care abilities after preceptorship. To these aboriginal nursing students, a good teacher's guidance and assistance could stimulate self-growth, learning ability, and establish confidence. In addition, if encouraged by clinical instructors in raising questions and inquiring about related references, aboriginal nursing students could establish self-confidence, eliminate a sense of inferiority, and promote growth of professional knowledge.

According to Sieh's (1991) study, there was a higher tendency for interpersonal relationships rather than work in aboriginal culture. Huang (2000) revealed that aboriginal students valued the harmony of interpersonal relationship and there was a positive correlation of relationships with their peers and teachers. This coincided with Chen and Chou's (2001) study, which showed that aboriginal nursing students' interpersonal skill, industriousness, and stamina, were better than non-aboriginal students during internship in the hospital. In addition, they had less observation ability and less creativity in working, but better open-mindedness in learning, better communication skills, and higher industriousness and patience. The learning, adaptation, and clinical performance of aboriginal students during school would have an influence on their work performance after graduation. According to Wei (2000), aborigines' traditional faith, behaviour, and ecological dispersion were influenced by rapid social change in Taiwan, which led to mal-adaptation and unemployment in aborigines. This needed attention.

According to data from the Department of Health, Executive Yuan (2006) reported that females aged 15 to 24 have the highest unemployment rate in Taiwan. From the Council of Indigenous People, Executive Yuan reported that the major social issues among aboriginal people were education, poorly established aboriginal professional training, social welfare, and a higher unemployment rate than non-aborigines (Council of Indigenous Peoples 2007). Some of the reasons for the higher unemployment rate were lack of opportunity for employment, a lower education level and professional skills, poor adaptation ability,

lower pay due to racial discrimination, rejection from foreign labours, difficult adjustment to work habits, different life habits, no show on Monday, different thinking processes, poor writing skills and poor vocabulary. (Chen et al 1999; Guo 1999; Lin 2002; Tian 2002; Wei 2000). Therefore, the employment of aboriginal females aged 15 to 24 should be given serious consideration.

There were many research studies focusing on academic achievement and life adaptation of aboriginal students in Taiwan, but there is no research regarding the employment adaptation of aboriginal students after graduation. Yet the experiences of employment adaptation should be of concern. Government and related enterprises should also pay attention to aboriginal people's employment adaptation and psychological support, whilst fostering and promoting employment opportunities.

RESEARCH METHOD

A cross-sectional, descriptive design using a questionnaire was employed. After gaining ethical approval from the researcher's school, samples were collected from aboriginal nursing students who graduated from a five-year junior nursing college in the northern part of Taiwan. A constructed adaptation ability questionnaire with 29 questions, including clinical familiarity (1-21), influence on the quality of rest and life (22-26), adaptation after three months of work (27-28), and the last question for methods of coping with stress was developed. Expert validation from four nursing experts (a nursing professor, an associate nursing professor, and two clinical nursing managers) was 98.60%. For the 28 items of the scale, an alpha of 0.92 was calculated, indicating acceptable value for a well-developed instrument.

The questionnaire was based on a 4-point Likert scale: strongly agreed (4), agreed (3), disagreed (2), strongly disagreed (1), and was used after three months of orientation in the health care institutions. Data was analysed by using the Statistical Package for Social Sciences (SPSS) version 15.0 software for Windows for frequency, percentage, mean, and standard deviation.

FINDINGS

A form was mailed to 238 aboriginal nursing graduates by using addresses obtained from the aboriginal educational centre, requesting personal data and current employment status. After one month, only 46 (19.33%) were returned in the mail. A second attempt was made to contact the graduates by telephone and 145 (60.92%) were obtained. The employment status of the graduates is outlined in table 1. Of the respondent 15.86% were employed in nursing related fields. These include the areas of child-care institutions, cosmetic companies, pharmaceutical factories, administrative work in health care institutions, and health clubs. A total of 7.59% of respondents were employed in non-nursing fields. These include religious work, pubs, restaurants and factories.

Table 1: Employment status on aboriginal nursing students n=145

Place of work	Frequency	Percent	Rank
1. Clinical nursing	56	38.62	1
2. Related nursing field	23	15.86	3
3. Higher education	39	26.90	2
4. Non-nursing	11	7.59	4
5. Cram school for higher education	7	4.83	5
6. Unemployment	6	4.14	6
7. Married and stayed home	3	2.06	7
Total	145	100.00	

Since the research was focused on clinical nursing practice in health care institutions, samples were narrowed down to 56 aboriginal nursing graduates who were actually practicing in clinical nursing. After their assurance they would mail back the questionnaire, it was mailed out along with a consent form and a gift. A follow-up telephone call was made. The respondent place of work is shown in table 2. According to the Department of Health in Taiwan, hospital levels can be classified as a medical centre (over 500 acute beds), a district hospital (over 250 acute beds), or a regional hospital (over 20 acute beds).

Table 2: Place of work in health care institutions n=56

Place of work	Frequency	Percent	Rank
1. Public Health	1	1.79	5
2. Clinics	9	16.07	3
3. Regional Hospital	20	35.71	2
4. District Hospital	24	42.86	1
5. Medical Centre	2	3.57	4
Total	56	100.00	

Table 3: Clinical familiarity N=56

Item	Mean	SD	Rank
1. Realised organisational culture	2.82	0.94	1*
2. Realised nursing departmental goal	3.21	0.93	3*
3. Familiar with co-worker	3.91	0.29	1*
4. Realised co-worker's duties	3.89	0.31	2*
5. Realised duties and executed accurately	3.82	0.43	
6. Realised unit routine work and executed accurately	3.82	0.39	
7. Realised diseases of the unit	3.79	0.46	
8. Operated nursing skills accurately	3.55	0.63	
9. Familiar with examination and consultation process	3.52	0.66	4*
10. Co-operated with and executed consultation process accurately	3.57	0.63	5*
11. Operated admission/discharge/transfer of patients accurately	3.86	0.48	
12. Operated medical equipment accurately	3.57	0.71	5*
13. Adequate intervention while patient's condition changed	3.09	0.58	2*
14. Familiar with unit environment	3.91	0.29	1*
15. Administered order accurately	3.91	0.35	1*
16. Filled out related medical records accurately	3.88	0.38	
17. Realised medication process	3.75	0.61	
18. Realised unit common medication mechanism and side effects	3.86	0.44	
19. Administered medication accurately	3.86	0.44	
20. Operated computer accurately	3.75	0.51	
21. Good communication with medical team	3.91	0.29	1*

Note: * the five highest scores * the five lowest scores

The first part of the questionnaire regarding clinical familiarity is shown in table 3. The top five highest scores were: familiar with co-worker, familiar with unit environment, administered orders accurately, good communication with medical team, and realisation of co-worker's duties. The five lowest scores were: realisation of organisational culture, adequate intervention while patient's condition changed, realised nursing departmental goal, familiar with examination and consultation process, co-operated with and executed consultation process accurately, and operated medical equipment accurately. The influence of the quality of rest and life from highest to lowest areas were: health, leisure activities, social activities, appetite, and sleep quality (table 4). Adaptation after three months of work showed that graduates could actively search for solutions when facing difficulty working (mean = 2.82) as well as finishing work on time (mean = 2.59). Methods of coping with stress are shown on table 5. Almost all of the graduates (98.21%) could find ways to cope with stress during a three-month probation period.

Table 4: Influence quality of rest and life n=56

Factors	Mean	SD	Rank
1. Health	3.34	0.92	1
2. Appetite	2.63	1.24	4
3. Sleep quality	2.54	1.28	5
4. Social activities	2.91	1.07	3
5. Leisure activities	2.96	1.08	2

Note: strongly agreed (4), agreed (3), disagreed (2), strongly disagreed (1)

Table 5: Methods of coping stress n=56

Methods	Frequency	Percent	Rank
1. Leisure activities	2	3.57	4
2. Talked to somebody	28	50.00	1
3. Leisure activities and talked to somebody	21	37.50	2
4. Other methods	4	7.14	3
5. No method	1	1.79	5
Total	56	100.00	

DISCUSSION

Profile of Employment Status

There are several reasons for a high percentage (31.73%) of aboriginal nursing graduates pursuing

higher education directly following their graduation from the five-year nursing college program. These include the establishment of more two-year bachelor nursing schools, the preferential policies for aboriginal students entering higher education through an entrance examination, more medical centres requiring a bachelor degree and higher pay for bachelor degree positions. Graduates in related nursing fields such as child care institutions, cosmetic companies, pharmaceutical factories, administrative work in health care institutions, and health clubs were not interested in clinical nursing practice, but preferred to stay in related and familiar fields. Reasons for working in non-nursing fields were, either no interest in nursing, looking for another job, or still waiting for a nursing job. The majority of graduates (82.14%) working in an acute hospital setting liked to put theory into practice, experience real nursing, as well as prepare themselves for career advancement.

Clinical Adaptation Ability

Out of 21 items regarding clinical familiarity, only one item, 'realised organisation culture', scored under three. Most graduates felt confident in their job after a three month probation period. They handled their work well. They expressed that they worked hard at not being labelled as aborigines. They did not want their staff and nurse manager to make judgments about them. Some of them even expressed that they performed better than some of the non-aboriginal nursing staff on the unit. One of the top five highest scores showed that aboriginal nursing graduates had good communication and social skills. This was consistent with previous studies (Chen and Chou 2001; Huang 2000; Sieh 1991). They valued the harmony of interpersonal relationship. The first of the five lowest scores, they expressed organisational culture and nursing departmental goals had no direct influence on work compared to clinical practice. They did not pay much attention to themselves during their first three months of employment. They felt three months was not long enough for them to react to emergency situations in a timely manner. They needed more time and opportunity to practice with complicated equipment and consultation processes.

Influence of Quality of Rest and Life Due to Work

The aboriginal nursing graduates felt certain levels of influence in health, leisure activities, social activities, appetite, and sleep. In Taiwan, nurses rotate shifts on a monthly basis, they need to adjust their body clock every month. They may privately change shifts with other nursing staff. Working rotating shifts every month also made them have a more abnormal life style than others. Caring for patients is the main part of a nurse's job, this puts graduates under much more pressure than those working in other roles. Reasons for leaving the nursing workforce such as work pressure, three shifts, mal-adaptation, and abnormal life style (Chen et al 2006; Chen et al 2005; Chen et al 2000; Wang 1997; Yin 1991), the tendency of leaving nursing jobs or retaining them should be seriously considered.

Adaptation after Three Months of Work and Methods of Coping with Stress

All of the aboriginal nursing graduates expressed that they worked from thirty minutes to up to four hours in addition to their scheduled shift. In the majority of hospitals no overtime was paid for this work and instead time in lieu may have been offered. This needed to be verified by the unit head nurse. When facing difficulty in work, the nurses knew and were willing to actively search for solutions. Talking to someone or engaging in leisure activities were two major methods of coping with stress for these new graduates. Only one did not use any coping methods and should be observed.

LIMITATIONS

It was very difficult to contact students following graduation, especially aboriginal students. There were many obstacles to overcome such as disconnected phones (many aborigines were poor and could not afford to pay their telephone bill), frequently changed phone numbers, written and verbal language barriers (elder members at home were mostly illiterate people and only spoke the native aboriginal language), and family members having difficulty in keeping track of their children. There needs to be a better mechanism to follow up on students after their graduation.

CONCLUSION

Findings from this study provide better understanding on the adaptation of probation period of employment on these aboriginal nursing graduates in health care institution. The results of this study show that the impression of nurse educators and clinical managers that aboriginal nursing students are less adapted in clinical settings than their non-aboriginal peers may be unfounded.

Further study should be done in relation to the loss of new graduates from the nursing profession directly following their graduation and reasons for leaving nursing fields after graduation.

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Preferred models of cardiac rehabilitation in rural South Australia from a health consumer's perspective

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KEY WORDS

Cardiovascular disease, cardiac rehabilitation, secondary prevention, preferred models, rural, health consumer perspective

ABSTRACT

Objective

To investigate preferred models of cardiac rehabilitation (CR) in rural South Australia from a health consumer's perspective.

Design

Cross-sectional, descriptive pilot study.

Setting

Rural community setting.

Subjects

Convenience sample of 40 (17 male) health consumers from the Riverland.

Main outcome measure

Self-reported preferred models of CR.

Results

A previous heart condition was reported by 57.5% of participants and 7.5% had previously been referred to CR. More than half (52%) considered their condition 'not serious at all' or 'slightly serious' despite reporting a significant cardiac history. Transport, convenience, and flexible programs were raised as major considerations for planning future services. Most participants (69%) listed their local hospital as a preferred program location, with 55% stating they would not use an internet-based program. Overall a group program was preferred to an individual program (46% vs. 36%), with a higher proportion of men preferring an individual program.

Conclusions

The main aim of cardiac rehabilitation is to maximise health and quality of life. However it is vital to consider other characteristics of CR, such as convenience, accessibility, flexibility, and personal beliefs and preferences. Health consumer preferences are therefore an important consideration when designing future programs, to ensure interventions are individualised, and designed to increase access and attendance while minimising barriers. This pilot study provides valuable insight into health consumer preferences for health care professionals and decision makers involved in planning further needs analysis and future cardiac rehabilitation services for rural South Australia. Further research is needed to ensure findings are both rigorous and valid and to ensure the development and implementation of future programs is based on the best available evidence.

INTRODUCTION

Comprehensive cardiac rehabilitation (CR) and ongoing secondary prevention significantly improves health outcomes and quality of life, but is utilised by only a fraction of eligible cardiac patients (National Health Priority Action Council 2006; Clark et al 2004). Research suggests that around 30% of eligible patients participate in structured CR programs in Australia (Sundararajan et al 2004; Farley et al 2003; Scott et al 2003) and internationally (Leon et al 2005; Paquet et al 2005; Daly et al 2002). Rural and remote populations in Australia have a significantly higher incidence of cardiac mortality and morbidity than those in metropolitan areas (Australian Institute of Health and Welfare 2006; Access Economics Pty Ltd 2005). Yet they have poorer access to structured CR programs, despite secondary prevention potentially being most beneficial in these settings where usual care may be less than optimal (Clark et al 2005).

Many rural and remote regions rely on unstructured CR services, which can provide some of the recommended elements of secondary prevention. However, there is wide variability in the implementation and evaluation of these services and large care deficits exist that can negatively impact patient outcomes in vulnerable rural populations (Wachtel et al 2008a, Wachtel et al 2008b; National Health Priority Action Council 2006). Consideration must therefore be given to the introduction and evaluation of a more structured and systematic approach to CR in all rural and remote regions of Australia.

The availability of a program however, does not automatically guarantee patient participation and subsequent health benefits. Despite strong evidence for the benefits of CR, existing services are significantly underutilised by eligible patients. Previously reported barriers to CR include low referral rates, failure of patients to attend despite referral, transport and distance issues, lack of flexibility, and the absence of a structured CR program (Aoun and Rosenberg 2004; Sundararajan et al 2004; Farley et al 2003; Scott et al 2003; Bunker et al 1999). We have been aware of these barriers for some years, yet attendance rates remain disturbingly low.

It has been advocated for many years that knowing a patient's health-related preferences can lead to more effective and less expensive care (Flatley et al 1998). Patient preferences can provide direction for treatment options and tailoring of interventions for specific needs, choices, and abilities (Flatley et al 1998). In addition, patients who are empowered during health interventions are more likely to participate in their own care. It then seems likely the development of CR services that are individualised and relevant to patient needs may increase attendance, and subsequent behaviour change (King et al 2001). Yet little research has been carried out from this perspective, and a gap exists between what traditional programs offer and patients' expressed needs during the recuperating phase following a cardiac event (Paquet et al 2005).

Interventions designed to increase access and attendance need to be developed locally, and should take into account a range of facilitators and barriers (Clark et al 2004). Prior to the introduction of a more structured approach to CR in rural and remote areas, steps should be taken to include one of the most important stakeholders, the health consumers, in the development of new services to ensure their relevancy, and to promote willingness and capacity to attend (Clark et al 2004).

AIM

The aim of this pilot study was to investigate preferred models of CR in rural South Australia from a health consumer's perspective. This study follows previous research examining unstructured CR and secondary prevention in rural South Australia (Wachtel et al 2008a, Wachtel et al 2008b).

METHOD / METHODOLOGY

Study design and data collection tool

A cross-sectional, descriptive pilot study was undertaken to examine preferred models of CR in the Riverland Region of South Australia (Riverland) from the perspective of local health consumers. A questionnaire (QA) was developed by the author using the contemporary literature on various facilitators and barriers to CR. The QA consisted of 19 multiple

choice and short answer questions, and included the following categories: demographics, education history, past history of cardiovascular disease, personal belief of seriousness of their condition, past experience with CR services, preferred models of CR and suggestions for CR services specific to the Riverland.

Study participants and ethics approval

Approval for the study was granted by the Flinders University Human Research Ethics Committee. All adult (≥ 18 years) members of the general public who resided in the Riverland were eligible for inclusion. The Riverland is a three hour drive north-east of the state capital Adelaide, has a population of just under 35,000 people, and consists of five major towns and several smaller communities. Cardiac related health services are provided by four district hospitals and one regional hospital, along with seven general practice clinics throughout the region. Potential participants were approached at a large shopping centre and several of the lawn-bowls sporting facilities in three of the five major Riverland towns.

Data collection

Data were collected over a two day period in September 2007 by two second year medical students (Flinders University). Participants were given a letter of introduction and advised they were not obliged to participate. Completion of the QA was taken as consent, and to maintain anonymity participants were asked not to place identifying information on the QA. A total of 40 participants completed the QA.

Statistical analysis

Data were analysed using the Statistical Package for the Social Sciences. Descriptive statistical analysis was used to calculate frequencies, mean values and range. Correlational analysis was used to determine the relationship between demographic and educational data, and CR utilisation and preferences for different models of care.

FINDINGS

Demographic characteristics

Demographic data are presented in table 1.

Table 1: Demographic characteristics of participants (n = 40)

Category	Number (%)
Male	17 (42.5%)
Female	23 (57.5%)
18 - 34 years	2 (5%)
35 - 54 years	4 (10%)
55 - 64 years	4 (10%)
65 - 74 years	10 (25%)
75 - 84 years	15 (37.5%)
> 85 years	4 (10%)
Not answered	1 (2.5%)
Married	21 (52.5%)
Single	4 (10%)
Widowed	13 (32.5%)
Separated	2 (5%)
Primary School	10 (25%)
High School	22 (55%)
TAFE or similar	5 (12.5%)
University	3 (7.5%)

History of cardiovascular disease and past cardiac rehabilitation usage

Twenty three participants (57.5%), 11 (48%) females and 12 (71%) males, reported a previously diagnosed heart condition. More than half (52%) considered their condition 'not serious at all' or 'slightly serious', despite reporting a significant cardiac history, such as bypass surgeries and heart attacks. There was no strong difference in perception of condition seriousness that could be related to age, sex, marital status and education level (see table 2).

Only three (7.5%) participants reported previous referral to a CR program. Two people attended; one at the regional hospital and one at their local hospital. The participant who did not attend listed 'too far to travel' as the reason.

Preferred models of cardiac rehabilitation

Participants' preferred location for CR programs are outlined in table 3. The majority (69%) indicated that they would prefer to attend at their local hospital, citing convenience and transport issues. However, only seven (19%) stated they would choose a program at their local GP clinic, despite these clinics being located near the hospital in each town.

Table 2: Participant perceptions of seriousness of diagnosed heart condition (n = 23)

Diagnosed heart condition (in persons own words)	Age	Sex	†Marital status	*Education level	Considered seriousness
High blood pressure	75-84	F	W	HS	Not answered
	>85	F	M	PS	Not serious at all
	75-84	F	W	HS	Not answered
	65-74	M	M	HS	Slightly serious
	55-64	M	M	HS	Not serious at all
Heart fibrillation	>85	F	W	PS	Slightly serious
	65-74	M	M	HS	Slightly serious
Irregular or very rapid heart	75-84	F	M	PS	Unsure
'Slight heart attacks'	65-74	F	W	HS	Not serious at all
'Muscular attack'	65-74	M	S	HS	Slightly serious
Aortic valve regurgitation and angina	55-64	F	M	HS	Slightly serious
Mild heart attack and angina	65-74	M	M	PS	Very serious
Triple bypass with three stents	65-74	M	M	HS	Quite serious
Five bypasses	>85	M	W	PS	Not serious at all
Coronary artery disease, bypass with stents, hypertension	55-64	M	Sep	Uni	Slightly serious
Double bypass	75-84	M	M	Uni	Quite serious
High cholesterol	35-54	M	M	TAFE	Unsure
Chest pain, blockages	75-84	M	M	HS	Extremely serious
Yes (condition not stated)	75-84	F	W	PS	Quite serious
	65-74	F	W	HS	Very serious
	75-84	F	M	TAFE	Slightly serious
	75-84	F	W	HS	Not answered
	75-84	M	M	HS	Not serious at all

† Marital status; M = Married, S = single, W = widowed, D = defacto, Sep = separated * Education level; PS = primary school, HS = high school, Uni = university

Table 3: Preferred Location / Model of Cardiac Rehabilitation (n = 36)

Location / Model	Number (%)
Riverland Regional Health Service Inc	8 (22%)
Local hospital	25 (69%)
Local general practice clinic	7 (19%)
Home based program and home visits by a cardiac nurse	4 (11%)
Self directed program with a manual	3 (8%)
Internet program	1 (3%)
None of the above	1 (3%)

Note: Participants were able to choose multiple preferences; total percentage is greater than 100%

Table 4 outlines participant responses to which CR model they would not utilise. Twelve of 22 participants (55%) said they would not use an internet-based program, with several stating they are 'not into computers'. The six participants (22%) who stated they would not attend a program at the Regional Hospital did not reside in that town, so transport

issues may have affected this response. Five participants (23%) stated they would not enrol in a home based program with home visits by a cardiac nurse, with one participant stating they 'did not want someone entering my home'.

Table 4: Cardiac rehabilitation programs participants would NOT attend/use (n = 22)

Health Care Facility/CR Model	Number (%)
Riverland Regional Health Services Inc at Berri	6 (27%)
Their Local General Practice Clinic	1 (5%)
Home based program and home visits by a cardiac nurse	5 (23%)
Internet based program	12 (55%)
Self-directed program with a manual	5 (23%)

Note: Participants were able to choose multiple preferences; total percentage is greater than 100%

Table 5 depicts participant preferences related to group, individual or mixed CR programs according to gender. The highest proportion of participants (46%)

preferred a group program (25% of males and 65% of females) stating it was 'more educational', 'nice to talk to like-minded people', 'like the company', 'can learn from others', and 'more comfortable'. The next highest preference was an individual program (36%), with participants stating they 'don't want to involve other people', 'work better on my own', and that they prefer 'one-on-one conversation'. A much higher proportion of men preferred an individual program (56%) over a group program, with the contrary true of the women (18%).

Table 5: Preference for group, individual or mixed CR program delivery according to sex (n = 33)

	Group Program	Individual Program	A mix of group and individual	Total
Male	4	9	3	16
Female	11	3	3	17
Total	15 (46%)	12 (36%)	6 (18%)	33

Suggestions for improving cardiac rehabilitation services within the region

Two main themes were identified by 15 respondents to this question:

1. Transport issues - all participants suggested the introduction of a regular shuttle bus or other form of transport to and from CR services.
2. Flexible program - six participants (40%) suggested flexible CR programs, and one specifically identified the need to make them available at night as well as during the day.

DISCUSSION

Consistent with previous research this study reported low referral rates, most likely due to the unstructured nature of CR in the Riverland (Wachtel et al 2008a, Wachtel et al 2008b). This is concerning because we know people are much more likely to attend CR when they are actively referred, and when programs are easily accessible (Jackson et al 2005).

Transport, convenience, and flexible programs were raised as major considerations for planning future CR services. This is not surprising given the large geographical distribution of the studied region, and

the fact that there is no government-based public transport system available. Urgent consideration must be given to the provision of a more consistent and equitable transport system throughout the region to enable timely access to required health services.

Health consumers are often required to travel large distances to attend central Riverland Regional Health services. It is not unanticipated then that most people listed their local hospital as a preferred venue for CR services. However, despite citing convenience and transport issues to support this choice, only seven participants chose their local GP clinic as their preferred venue, despite these clinics being located near each local hospital. This may be explained either by a belief that hospitals are better equipped to care for cardiac-related illness, a knowledge deficit of services available at their local GP clinic, or a failure to appreciate the exact nature of CR.

Overall, in the current study a group program was preferred over individual programs. There was no significant difference in preferences between groups with respect to age, marital status or education history. However, a much higher proportion of men than women preferred an individual program to a group program. It is known that men are generally less likely to join a support group than women and tend to be unwilling to discuss their medical problems as openly in groups (Barnett 2005). It is important to be aware of these differing communication patterns in order to understand likely participation levels and to design appropriate group programs that involve both genders (Barnett 2005).

More than half of the participants with a previous heart condition considered it 'not serious at all' or 'slightly serious', despite having a significant cardiac history. This finding demonstrates a considerable knowledge deficit. Previous research shows that many people view a heart attack as an acute event rather than a sign of a chronic condition (Alsen et al 2008; Wiles and Kinmonth 2001). Patients have described a 'serious heart attack' as one resulting in death or severe disability and a 'mild heart attack' as one from which they could fully recover (Wiles and

Kinmonth 2001). Illness perception can influence CR attendance (Alsen et al 2008). People who view their cardiac condition as controllable and believe they can prevent recurrence are more likely to attend. Whereas those who see their condition as an isolated acute event, unrelated to their past history, are less likely to attend (Alsen et al 2008). Future research needs to focus on the implementation and evaluation of education strategies to address these and other knowledge deficits.

STUDY LIMITATIONS

Data were collected by two medical students during the Universities Regional Community Week 2007 <http://furcs.flinders.edu.au/education/med_stud/y2/y2.htm>. Time constraints limited data collection to two half-days, limiting the number of participants. The small number of participants, along with convenience sampling from one geographical area reduces statistical significance and consequently limits generalisability to the studied population. However the findings have potential relevance to similar rural regions with comparable health service provision. The questionnaire was not pilot tested and some questions were left blank, indicating a possible misunderstanding of some questions. No data were collected on the number of people who declined (although anecdotally the data collectors reported that 'most people given a survey completed it'), therefore the participation rate cannot be assessed.

RECOMMENDATIONS

Despite some limitations, this pilot study provides valuable insight into health consumer preferences for health care professionals and decision makers involved in planning future cardiac rehabilitation services for rural South Australia. Further research is needed to ensure findings are both rigorous and valid and to ensure the development and implementation of future programs is based on the best available evidence. The survey tool requires modification to shorten it and reduce duplication of some questions. A more rigorous sampling strategy needs to be implemented to ensure a significant sample. For

example participants could be recruited from local GP clinics and hospitals or shopping centres. Finally, a record of people who decline participation needs to be documented in order to calculate participation rates.

CONCLUSIONS

The main aim of CR is to maximise an individual's health and quality of life, and this is most often measured by health outcomes. However it is vital to consider other characteristics of CR programs such as convenience, accessibility, flexibility, and personal beliefs and preferences. People need to understand and accept their condition in order to successfully modify health habits. Patient preferences are therefore an important consideration when designing future CR programs, to ensure interventions are individualised and designed to increase access and attendance and minimise barriers.

This study provides valuable insight into health consumer preferences for CR in a rural region of South Australia for health care professionals and decision makers involved in planning future CR services in rural South Australia.

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Content validity of the ResCareQA: An Australian residential care quality assessment based on resident outcomes

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KEY WORDS

Ageing, residential care, quality of care, validity, Delphi process

ABSTRACT

Objective

To determine the face and content validity of the Residential Care Quality Assessment (ResCareQA) developed to fill the current gap in quality assessment tools within the Australian residential aged care system. The ResCareQA contains 24 questions across four domains: *Resident Health* (seven questions), *Personal Care* (five questions), *Resident Lifestyle* (five questions) and *Care Environment* (seven questions), and allows the easy calculation of 36 clinical indicators for an overall assessment of quality in the residential care setting.

Design

Face and content validity were assessed by using modified Delphi process to consult an expert panel of experienced aged care professionals and a consumer representative.

Setting

The Delphi questionnaire was distributed via email and all panellists completed it online in their own home or place of work.

Subjects

The expert panel constituted six members, all of whom were experienced residential aged care professionals.

Main outcome measures

The Delphi survey aimed to reach agreement about the face and content validity of the assessment tool.

Results

All agreed the ResCareQA had good face and content validity, although some minor changes were suggested to improve content validity.

Conclusion

The ResCareQA provides a comprehensive but easy to administer means of monitoring quality in residential aged care facilities, with the tool usually completed in less than 30 minutes. Example questions are included with this article.

INTRODUCTION

Assessing quality of care is a vexatious issue that is not well addressed within the Australian residential aged care system (O'Reilly et al 2007). While the Accreditation process has been credited with improving quality within this sector, it is regarded by many as not going far enough, particularly as it has little emphasis on clinical outcomes (Australian Society for Geriatric Medicine 2002). Outcomes represent the result of all inputs into care and are thus important indicators of care quality. In recent years, the Victorian State Government has released quality indicators for state-run facilities (Department of Human Services 2007; Victorian Department of Human Services 2004) and the Federal Government has begun exploring the issue (Department of Health and Ageing 2007), but Australia does not yet have a standardised system of quality assessment related to clinical outcomes (O'Reilly et al 2007). In light of this gap, the Clinical Care Indicator (CCI) Tool was developed after extensive industry consultation and exploration of methods used internationally, such as the Minimum Data Set (MDS), which is used in the United States (Courtney et al 2007). The MDS forms part of an integrated case-mix, care planning and quality assessment system, used to collect a comprehensive set of clinical data at prescribed intervals (Murphy et al 1995; Mukamel and Spector 2003; Karon and Zimmerman 1998; Shipman et al 2005; Mor et al 2003). This system is considered to be largely responsible for improved quality outcomes within US nursing homes since its introduction in 1991 (Achterberg et al 1999; Hawes et al 1997; Phillips et al 1997; Mor et al 2003; Mukamel and Spector 2003). However, rather than adopting something developed for another country, the aim of the CCI Tool was for it to be relevant to Australian clinicians and facilities. The items in the CCI Tool were originally identified by expert clinicians and industry representatives from Australia (Courtney et al 2007), and it was refined after a national pilot and a Brisbane-based trial of its use within the quality improvement context. The final version of

the CCI Tool covered 23 clinical areas, within four domains of care (*Resident Health, Personal Care, Resident Lifestyle, Care Environment*). The domains reflect those within the Accreditation Standards to facilitate ease of use (Courtney et al 2007). Outcome data is expressed as clinical care indicators (CCIs), which, as their name implies, indicate areas where care should be reviewed. Trials found the CCI Tool could generate comprehensive and holistic clinical outcome data, while remaining relatively quick and easy to administer (Courtney et al 2007). The tool was favourably viewed by those who used it because it enabled them to review and act on clinical feedback. The CCI Tool thus demonstrated real potential to contribute to enhanced quality within residential aged care in Australia.

Scope of this paper

When developing new measures, it is essential that their accuracy and applicability to the relevant population be established through psychometric evaluation (Greenwood 2004; Bowling 2002; Polit et al 2001). Of the numerous psychometric properties that must be investigated, face validity and content validity are the most fundamental and should be established before any others. *Face validity* is the degree to which a measurement instrument appears to measure what it is supposed to be measuring (Bowling 2002; Greenwood 2004; Polit et al 2001). While superficial and based on subjective impressions, it is important for an instrument to have reasonable face validity in order for users to consider completion worthwhile (Greenwood 2004). *Content validity* refers to the degree to which the items in an instrument adequately cover areas of importance and interest, with no irrelevant content included (Greenwood 2004; Bowling 2002; Polit et al 2001; Jordan et al 1998). Commonly both constructs are established using an expert panel (Greenwood 2004; Bowling 2002; Polit et al 2001; Jordan et al 1998). In the study reported on in this paper expert assessment of face and content validity was undertaken using modified Delphi technique, resulting in a revised version of the CCI Tool, renamed the *ResCareQA*.

METHOD

The Delphi process

The Delphi technique has been in use for a number of decades and is regarded as an effective means of ascertaining group consensus (Delbecq et al 1975; Bowling 2002; Cross 2005; de Villiers et al 2005; Sandin Bojö et al 2004). Utilising a structured process, the technique enables simultaneous consultation with a group of experts to arrive at group agreement (Bowling 2002; Delbecq et al 1975; Jones and Hunter 1996; de Villiers et al 2005; Kennedy 2004; Sandin Bojö et al 2004). Specifically, Delphi process involves several rounds of questionnaires, which progressively refine responses to an issue until agreement between respondents is reached or approximated (Bowling 2002; Delbecq et al 1975; Cross 2005; de Villiers et al 2005; Jones and Hunter 1996; Sandin Bojö et al 2004). The advantages of this technique are that it allows respondents time to deliberate, does not require scheduling meetings, and retains anonymity. The disadvantages are that it often takes a long time to complete and it does not enable the free generation of ideas that can occur through discussion (Delbecq et al 1975; Kennedy 2004). Given the logistical difficulties presented by trying to bring busy panellists together at the same time, a modified Delphi technique was considered the most suitable means of ensuring participation.

Expert panel recruitment

The expert panel comprised experienced aged care clinicians, managers and researchers, as well as a consumer representative. Invitations to participate were sent to potential panellists, with information about the study and expression of interest forms for return via post or e-mail. Telephone and email follow-up confirmed participation. Out of 19 people invited, the final panel comprised six members. Those who could not take part cited time pressures as their primary reason for non-participation.

Ethical considerations

All participants were volunteers who could withdraw at any time. Confidentiality was maintained throughout the process, with data stored securely with the second author. Ethical approval was obtained from the Queensland University of Technology Human Research Ethics Committee.

Procedure

Participants were emailed copies of the CCI Tool and its User's Guide. Face validity was ascertained by an overall judgement of the CCI Tool as an appropriate instrument for assessing clinical status and care outcomes within residential aged care. Content validity was established through assessment of each item and deciding whether it (a) was appropriate for inclusion, and (b) adequately assessed the clinical area it aimed to. Participants entered their responses into e-forms and emailed them back to the researchers, who then reviewed and collated the replies. Changes were made to the CCI Tool according to suggestions where appropriate (i.e. if the suggested changes matched the purposes of the assessment). While traditional Delphi process incorporates the use of a ranking system in its responses (de Villiers et al 2005; Jones and Hunter 1996), this study utilised an alternative approach, whereby qualitative comments and suggestions were collated and incorporated into the revised assessment. Due to recruiting delays, the panel was also smaller than the recommended 10-15 participants (Cross 2005; de Villiers et al 2005; Delbecq et al 1975). For these reasons, the procedure followed is referred to as *modified* Delphi process. The specific questions asked of the panellists are included in Appendix 1.

Pooled results were returned to panel members for further comment, with the responses from the second round subsequently reviewed. As agreement had been reached by this stage, summarised feedback and a final revision of the CCI Tool was then returned to the panel. The end result of this process was a revised assessment tool - the ResCareQA.

FINDINGS

Face validity

Responses confirmed that the ResCareQA had acceptable face validity, although further explanation was required to ensure understanding that it was designed to indicate clinical care quality, not for use as a care planning instrument. Such clarification was added to the User's Guide. The panel raised concerns about its length and ease of use. This

will be monitored over time, but previous trials had suggested that care staff found it easy to use, with a mean completion time of just under 30 minutes (Courtney et al 2007).

Content validity

Most comments about content validity were directed towards adding more detail, with more of a care planning focus. However, while the ResCareQA might provide useful information for care planning, its focus is on using outcomes to indicate care *quality*, and some details required for care *planning* would add unnecessary complexity to the assessment. This confirmed the need for clearer explanation of the assessment's purpose in the User's Guide. After completion of the Delphi process, a number of changes and additions were made to create the final version of the ResCareQA. The specific changes are outlined below.

Unplanned hospital visits: a new indicator was added to the "Resident Health" section (see table 1). The item indicates the number of unplanned hospital admissions and/or visits to an emergency department in the three months prior to assessment. A high number of unplanned hospital visits would be considered an adverse event suggesting the need to review resident clinical status and care procedures.

Toileting and continence: this item was changed from a focus on continence alone, to an assessment of other toileting issues as well. In doing so, two new questions were added - *Toileting Appliances* and *Faecal Impaction*.

Hydration status: this item was modified to focus on under-hydration only, since research suggests that over-hydration is rarely a problem in the residential aged care context (Mentes 2006; Dimant 2001). Listed in the item are the most reliable clinical signs of dehydration identified in the literature (aside from laboratory tests) (Bennett 2000; Dimant 2001; Keller 2006; Mentes 2006; Sullivan 2005). Because dehydration is a clinical emergency, the timeframe for observing lack of fluid intake was shortened from one week to three days.

Activities of daily living: the definitions pertaining to activities of daily living in the user's guide were modified slightly to provide further clarification.

Care of the senses: no concerns were expressed by panel members. However, on conducting its own review, the research team made the scales for hearing and vision more consistent with each other and in line with standard descriptors of levels of impairment (Hear-It AISBL 2008; World Health Organization 2010).

Communicating: responses to this item originally took the form of a three-point Lickert-type scale ("*usually understands*", "*sometimes understands*", "*rarely/ never understands*"). After panel review, an extra item ("*no problems*") was added.

Adaptation and behaviour patterns: this was adjusted to ensure consistent differences between points on the scale.

Restraints: the term "*environmental restraints*" was changed to "*environmental modification*", which acknowledges that such strategies entail adjusting the environment to minimise risk of absconding or harm, rather than directly limiting the movement of the resident, as is the case with restraint. A new point on the scale was also added ("*used occasionally but not in last week*").

Depression: the panel deemed this item too long and difficult to complete. The indicators of depression were subsequently replaced by the *Cornell Depression in Dementia Scale* (Alexopoulos et al 1988), a screening tool which can be applied to both cognitively intact and cognitively impaired individuals (De Bellis and Williams 2008). While the section on depression symptoms remains long, the format is somewhat clearer than on the original CCI Tool, and it is based on an assessment that will become increasingly familiar to residential aged care staff across Australia, as its use is advocated with the new Aged Care Funding Instrument (ACFI) (De Bellis and Williams 2008). The numerical summary score from this scale is also useful in that it provides an uncomplicated means of identifying residents with possible clinical depression. However, its inclusion should not be considered a diagnostic tool, but rather as a trigger - any residents identified as

potentially depressed should then be assessed by a medical professional. Subsequent sections of the “*Depression*” item were also simplified, by omitting one section (“*mood persistence*”) and combining

two others (“*medication*” and “*other therapies*” - into “*treatment*”). While still a lengthy item, this outcome indicator is an important one to measure (De Bellis and Williams 2008).

Table 1: The ResCareQA - care domains and clinical areas assessed (*italic text indicates modified/ added items*)

Care domain	Clinical area	Clinical care indicators (ccis)
Resident health	1. Pressure ulcer rates	Presence of ulcers
	2. Skin integrity	Presence of lesions
	3. Infections	Presence of infections
	4. Medication	a. Polypharmacy b. No pharmacy review
	5. Pain management	a. Pain frequency: daily pain b. Pain severity: severe pain
	6. Cognitive status	Decline in cognitive function
	7. <i>Unplanned Hospital Visits</i>	<i>Multiple unplanned hospital admissions</i>
Personal care	8. <i>Toileting and continence</i>	a. Bladder continence b. Bowel continence c. <i>Toileting appliance</i> d. <i>Faecal impaction</i>
	9. <i>Hydration status</i>	Poor hydration
	10. Activities of daily living	Activities of daily living decline
	11. Dental Health	Poor dental health
	12. <i>Care of the senses</i>	a. Sensory decline b. Sensory aids
	13. Nutrition	a. Poor nutritional status b. <i>Fed by tube</i>
	14. Meaningful activity	Meaningful activity
Resident lifestyle	15. Sleeping patterns	a. Sleep disturbance b. Use of sedatives
	16. <i>Communicating</i>	a. Communication difficulties b. Communication difficulties without use of communication aids c. Difficulties with English language without access to translators
	17. <i>Adaptation and behaviour patterns</i>	Disruptive behaviour
	18. <i>Restraints</i>	a. Physical restraints b. Chemical restraints
Care environment	19. Falls	Falls in the last month
	20. <i>Depression</i>	a. Symptoms of depression b. Symptoms of depression without treatment
	21. Family involvement	Family support
	22. Allied health	Allied health contact
	23. <i>Medical visits</i>	<i>Medical visits</i>
	24. Multi-disciplinary case conferences	Multi-disciplinary case conferences

Medical visits (formerly “doctors’ visits”): one respondent suggested there was no reference to specialists within this item, even though specialists were in fact included in the User’s Guide instructions. It is hoped by changing the name to the broader “*medical visits*” and highlighting “*doctor/specialist*”

in its body, it should be more obvious to someone completing the form that this item includes doctors of all forms (excluding those who saw the resident during an unplanned hospital admission). Other health professionals are included in the “*allied health*” section.

The revised CCI Tool: the ResCareQA

After all the above adjustments were made, the ResCareQA contained subtle differences to the CCI Tool, including an extra clinical area for assessment (unplanned hospital visits). The ResCareQA was circulated to the panel, along with their collated comments. After review, all agreed that the revised instrument was acceptable and it was adopted for further reliability and validity analysis. Table 1 provides a summary of the ResCareQA, outlining clinical areas assessed and their relevant CCIs. Highlighted entries in the table indicate where changes to the CCI Tool were made to create the ResCareQA. Sample questions from the ResCareQA are shown in Appendix 2. When used, raw data from this form is converted into CCIs through use of numerators and denominators, examples of which are in Appendix 3. Anyone interested in using the ResCareQA can obtain it and its supporting documents from the authors.

DISCUSSION

While there is a high level of regulation within the Australian residential aged care system, comprehensive quality assessment and related benchmarks are conspicuous by their absence. It is widely agreed that the key to evaluation of quality, effectiveness, and outcomes of care of older people is the use of comprehensive assessment. Such assessment, specifically of the physical, social, and psychological wellbeing of older people, should be able to provide potential residents, carers, providers, and regulators with a sound information base about the appropriateness and effectiveness of service delivery. In recent years, the Federal Government has released recommended care documentation procedures (Department of Health and Ageing 2005), extensively reviewed the Residential Care Scales (RCS) (Aged Care Evaluation and Management Advisors 2003) resulting in the new ACFI funding assessment (Department of Health and Ageing 2007b), and is now undertaking a review of the Accreditation Process (Office of Aged Care Quality and Compliance 2009). The Victorian State Government, which operates a large number of residential aged

care facilities, introduced its own set of five quality indicators in 2006, for which benchmarks are currently being developed (Department of Human Services 2007). However, apart from a document released in 2007 (Department of Health and Ageing 2007a) the Federal Government has not made any visible moves to introduce universal quality monitoring that extends beyond the Accreditation standards.

To address the absence of a national quality monitoring assessment, the ResCareQA was developed. The ResCareQA collects data on 24 areas of care, can be completed in 30 minutes, and has been designed to complement the ACFI, such that little extra work is required by care staff to use it. Trials prior to the commencement of this study found it to be user-friendly and capable of collecting useful clinical data. This study further established its utility by confirming face and content validity.

Limitations

Recruiting and consulting the expert panel took much longer than expected - dealing with busy people requires diligence with follow-up and reminders. While a panel of 10-15 respondents would have been ideal (Cross 2005; de Villiers et al 2005; Delbecq et al 1975), six respondents have been successfully used in previous Delphi panels (Sandin Bojö et al 2004) and it was simply not feasible to continue trying to source members. Further, it should be noted that the ResCareQA had already been extensively reviewed by a number of other expert panels and revised accordingly in earlier phases of its development (Courtney et al 2007), constituting proxy Delphi rounds in themselves. This study sought merely to formalise face and content validity of the assessment.

CONCLUSIONS

Establishing face and content validity of the ResCareQA consolidated its value as a quality assessment tool for the residential aged care industry. The strengths of the ResCareQA are that it is holistic but manageable - covering a wide range of clinical issues relevant to residents of aged care

facilities, with a manageable completion time. Creating further brevity in the assessment at the expense of richness of data would risk missing key aspects of residential care. Another strength of the ResCareQA is that it was developed specifically for Australian facilities, based on input from industry representatives, and using similar terminology as that in the ACFI and Accreditation assessments, thereby ensuring its applicability for the Australian context. Analysis of further psychometric properties, utilising quantitative data will be reported on in a subsequent article. Aged care facilities require a valid and reliable means of monitoring care quality and informing quality improvement strategies. Establishing the ResCareQA as a valid and reliable instrument should thus make a valuable contribution to the state of residential aged care in Australia.

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APPENDIX 1: PANEL QUESTIONS

1. Please comment on the over-all suitability of this assessment for use within residential aged care.
2. For each section of the assessment, as listed below, please comment on :-
 - a. The suitability of the question(s) for inclusion
 - b. The wording of the question(s)
 - c. Whether you believe anything should be added
3. Are there any other comments you'd like to make about the form and its contents?

APPENDIX 2:

Example Questions from the ResCareQA (Residential Care Quality Assessment)

Resident Health

4	Medication	Answer both questions below, in regards to medications taken by the resident.
a	Poly-pharmacy	Record the number of different medications taken by the resident in the last week. If no medications used, please enter zero ('0').
b	Pharmacy Review	Has a pharmacy review been conducted in the last 3 months? (tick the relevant box) ☐ Yes ☐ No

Personal Care

9	Hydration Status	Record if any of the following indicators of fluid status are present (tick relevant box/es).
.	a. None	☐
	b. Weight loss of 1.5kg within the last week	☐
	c. Oral signs - dry mucous membranes/ tongue furrows	☐
	d. Output exceeds input	☐
	e. Lack of fluid intake - did not consume all or most of the drinks given in last 3 days	☐
	f. Dry, flaky skin	☐
	g. Loss of tissue turgor	☐

Resident Life Style

14 Meaningful Activity	Record the average time in last week that resident was involved in activities of personal interest and meaning.	
See Users Guide for definitions	Most of the time - more than 2/3 of time	☐
	Some of the time - from 1/3 to 2/3 of time	☐
	Little of the time - less than 1/3 of the time	☐
	None of the time	☐

Care Environment

18 Restraints	Record the use of restraints during the last week. Please use one of the codes below (0, 1, 2, 3) in the box beside each type of restraint.	
Codes	Not used	
	Used occasionally but not in last week	
	Used during last week, but not daily	
	Used daily	
Restraint types	Chair that prevents rising	
	Trunk restraint	
	Limb restraint	
	Bed rails used for restraint purposes	
	Any type of chemical restraint	
	Environmental modification (e.g. door alarms)	

APPENDIX 3:**ResCareQA: Example Clinical Care Indicators***

(*) Full list of Clinical Care Indicators and User's Guide available from the authors on request.

Resident Health**4. Medication Management****a. Polypharmacy**

Definition: Use of nine (9) or more different medications.

Numerator: Residents who receive nine (9) or more different medications on most recent assessment.

Denominator: All residents on most recent assessment.

b. No Pharmacy Review

Definition: Prevalence of medication prescription without pharmacy review.

Numerator: Residents who did not have their medications reviewed by a doctor or pharmacist in the three months prior to the most recent assessment.

Denominator: All residents on most recent assessment.

Personal Care**9. Poor Hydration Status**

Definition: Prevalence of dehydrated residents.

Numerator: Number of residents with two (2) or more indicators of poor hydration status on most recent assessment.

Denominator: All residents on most recent assessment.

Resident Lifestyle**14. Meaningful Activity**

Definition: Prevalence of little or no participation in meaningful activity.

Numerator: Residents with little or no meaningful activity (score of 2 or 3) at most recent assessment.

Denominator: All residents on most recent assessment.

Care Environment**18. Restraints*****a. Physical Restraints***

Definition: Prevalence of daily physical restraints.

Numerator: Residents who are physically restrained (i.e. chair, trunk, limb, bed-rails) on a daily basis at most recent assessment.

Denominator: All residents at most recent assessment.

b. Chemical Restraints

Definition: Prevalence of daily chemical restraints.

Numerator: Residents who are chemically restrained (i.e. through use of psychotropic medication) on a daily basis at most recent assessment.

Denominator: All residents at most recent assessment.

Senior clinical nurses effectively contribute to the pandemic influenza public health response

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KEY WORDS

Influenza pandemic, public health surge workforce, biopreparedness, public health emergencies

ABSTRACT

Objective

To describe the experience of engaging senior clinical nurses as surge staff in a pandemic public health response and determine the effect of an on-line training package and exercise participation on these individuals' perceptions and confidence of being deployed during an influenza pandemic.

Design

After action reviews, end of exercise surveys, and pre- and post-training risk perceptions questionnaire completion.

Setting

The study was conducted within the operational aspects of a public health exercise response to an influenza pandemic.

Subjects

Clinical nurse consultants, nurse educators and nurse managers sourced from areas defined as not clinically critical during the early containment phase of an influenza pandemic response.

Interventions

Four hour on-line training package and a four day influenza pandemic exercise.

Main outcome measures

Expert observation and self-perceived appropriateness of surge staff and measured changes in risk perception.

Results

Observers' comments and after action reviews indicated that by the end of the deployment, day surge staff were able to perform public health surveillance functions competently. The end of day survey showed that the on-line training package served as a useful reference document but alone was an inadequate means of equipping staff for deployment. Exercise pre- and post-perceptions surveys found that self-perceived knowledge and confidence in performing duties increased following the exercise from 46% to 93% ($p < 0.01$) and from 46% to 90% ($p < 0.01$), respectively.

Conclusion

Clinical nurse consultants, nurse educators and nurse managers working within a health authority are an appropriate surge workforce during public health emergencies if provided with appropriate training and support.

INTRODUCTION / RATIONALE

Nurses are an essential component of the Australian health care system (ANF 2005). During public health emergencies, such as an influenza pandemic, traditionally the focus has been on the nurse's clinical role, however large-scale and sustained public health emergencies require surge public health surveillance staff to ensure an effective and efficient response.

Public health surveillance during a pandemic involves: case ascertainment, case management (but not clinical management), infection control, contact tracing, monitoring cases and contacts in home quarantine, education of community and health staff and communication with a variety of people and organisations. Public health case management may involve liaising with clinicians concerning the case, clinical presentation and management, ensuring appropriate specimens have been collected, following up test results, provision of prophylaxis or treatment if not in hospital and monitoring of cases progress (Eastwood 2006). There are no clear guidelines on who should be utilised as public health surveillance surge capacity during a public health emergency and how they should be trained.

In the United States of America, epidemiology and public health students have been identified as a potential surge workforce for public health emergencies (Gebbie 2007). However, in Australia senior registered nurses may be a more appropriate surge workforce. According to the Australian Nursing and Midwifery Council (ANMC) a competent registered nurse works within four domains: professional practice, critical thinking and analysis, provision and coordination of care and collaborative and therapeutic practice (ANMC 2006). Therefore senior registered nurses use evidence for practice, take responsibility for complex situations, show leadership in clinical and professional settings, contribute to effective team work, and focus on improving the health of individuals and groups (ANF 2005). Thus, theoretically this group have many of the characteristics required for effective public health surveillance.

While the H1N1 pandemic of 2009 was milder than anticipated, public health systems were still required to surge to cope with the number of suspected pandemic cases and contacts involved and to maintain an effective response over the protracted 'Contain' phase (Bishop 2009). Health system surge capacity is traditionally described in terms of expansion of beds, triage space, personnel and supplies (Joint Commission on Accreditation of Healthcare Organizations 2003; Phillips and Knebel 2006).

Surge capacity also refers to a health care system's ability to rapidly expand to meet the increased demand for adequately qualified clinical and public health practitioners in the event of bioterrorism or other large-scale public health emergencies or disasters (Agency for Healthcare Research and Quality 2005). Public health surge capacity has been described as the capacity to implement core public health activities (Koh et al 2006). Activities during a public health emergency include: liaising with treating clinicians about suspected and confirmed cases; confirming that suspected cases meet a case definition and determining their likely source of infection and contacts potentially placed at risk during their infectious period, advising on case isolation, quarantining of contacts, and initiating other appropriate public health action to mitigate further transmission (HNEPH 2007). Making the shift from individual and clinically-based disaster care to population-based care may prove a major challenge during public health infectious pandemics (Burkle 2006).

Success of public health surge staff depends on the adequacy of their pre-deployment training and intra-deployment support. Polivka et al (2008) identified twenty-five competencies for public health nurses using a three-round Delphi survey process. These included competence in recognising unusual events; understanding the incident command system, epidemiology, disease investigation, and surveillance; ability to mass dispense; and effective risk communication.

American and Australian data indicate staff who both perceive a threat but are confident in their role will report to work during an influenza pandemic and are willing to respond (Barnett et al 2009, Hope et al 2010, Qureshi et al 2002, Qureshi et al 2005).

At the end of 2008, before the 2009 pandemic, a field exercise was conducted over four days in a regional area of NSW that included presentation of suspected pandemic cases at 36 emergency departments, with 170 contacts identified. Fifty four senior nurses were deployed from their usual roles and rotated through operational public health surveillance pods/teams over the four days of the exercise. The exercise aimed to test: 1) the capacity of the regional area's EDs to identify a person with suspected pandemic Influenza, triage appropriately and complete case management; 2) the use of surge workforce in the Public Health Unit and the processes to engage, roster, and support the identified surge staff; and 3) the use of an on-line training package to prepare surge staff for the various roles.

The study / study aims

The aim of the evaluation was to determine the appropriateness of engaging advanced nurses as public health surge staff and determine whether the training package and exercise participation changed people's perceptions and confidence towards working during an influenza pandemic.

METHODS

On-line training package

An on-line training package was developed to provide information concerning an influenza pandemic, the attendant community, and individual threat posed and the role the advanced nurses may be asked to play. The package consisted of 13 modules including: an introduction to pandemic influenza; what is happening to prevent or control pandemic influenza; stress; infection control; surveillance; pandemic influenza case ascertainment; case management - hospitalisation, treatment and home quarantine; contact assessment and contact management - applying home quarantine and how to arrange for antiviral delivery. The package took approximately

four hours to complete and could be accessed via the internet or was available on CD.

Evaluation

The evaluation consisted of three components:

- 1) Evaluators comments to gauge appropriateness of advanced nurses as public health surge personnel. Evaluators were required to provide observations in four domains: team work, communication, documents / materials and decision making (Center for Health Policy 2007);
- 2) Self-completed pre- and post-perceptions surveys completed by deployed staff to determine changes in personal risk perceptions following training and participation in exercise. The health worker public health emergency risk perceptions survey has been previously used in Australia (Hope et al 2010) and was adapted for this evaluation. The survey tool was originally designed by the Johns Hopkins School of Public Health's Centre for Public Health Preparedness (Balicer et al 2006). The survey included questions on knowledge, confidence, preparedness and willingness to work during an influenza pandemic. The respondents were required to use a 10-point scale from one (agree) to ten (disagree) when responding to questions. The post exercise survey also included two additional questions: Since participating in the field exercise how have you had the opportunity to utilise the skills and knowledge gained: a) during your normal duties; and b) with family and friends; and
- 3) End of day exercise participant survey to determine usefulness of on-line training package. This survey, developed by the exercise evaluation team, consisted of six rating questions covering the usefulness of the on-line training package, value of information provided before participation, usefulness of material provided during the exercise and level of support provided. The respondents were required to use a 10-point scale from one (poor) to ten (excellent) when responding to questions. Four additional open

ended questions were included to provide opportunities for unstructured feedback on the exercise, the pre-exercise engagement process, on-line training package and the support provided during the exercise deployment.

Statistical Analysis

The data were cleaned and quality assured using SAS software®, version 9.1 (SAS Institute, 2004). The perceptions survey questions relating to personal confidence, knowledge and willingness to work were dichotomised into those who definitely agreed (1, 2 and 3) and others (4-10). As individuals who completed the pre- and post-perception surveys could not be identified due to prior agreement, it was not possible to compare individuals' responses, but descriptive statistics were utilised for comparison purposes. Comparison of proportions was undertaken using the chi squared statistic and a significance level of 5%. For the exercise participant survey quantitative questions were dichotomised into those who ranked the response as agreed (8, 9 and 10) and other (1-7). Qualitative thematic analysis was conducted by coding responses and then assigning higher order themes as appropriate.

FINDINGS

Appropriateness of senior registered nurses as public health surge staff

The after action reviews and evaluators noted that at the beginning of the deployment period surge staff were reliant on experienced public health team leaders, but as the day progressed they began competently taking responsibility for activities and functioning independently. Surge staff indicated that if they had continuing responsibilities from their usual positions that this added stress and may have negatively affected their functioning.

Training

Eighty seven percent (47/54) of the deployed surge exercise participants completed an end of day questionnaire. Participants indicated that the exercise was a positive experience and that they would be willing to perform these functions during a pandemic (table 1). Access to pre-exercise on-line

training was helpful; however it was recommended that improved role definition, possibly supported by role playing, and would be helpful. Many reported limited available time to complete the package prior to deployment due to their existing job responsibilities. Job action sheets, response plans and case and contact forms proved difficult for surge staff; however they reported that support provided by team leaders assisted in making the experience a positive one.

Table 1: End of day surge staff survey results, HNEAHS, 2008.

Question	Agreement n(%)
The training provided prior to the exercise was valuable	12 (26%)
Was given adequate emotional support during the exercise to fulfil role	36 (77%)
Was given adequate technical support during exercise to fulfil role	30 (64%)
The materials provided were adequate during exercise to fulfil role	31 (66%)
Required role during the exercise was clear	21 (46%)
Willing to work in the future if required	36 (78%)

Risk perceptions

Ninety three percent (56/60) of deployed surge staff completed the pre-exercise perceptions survey. Of the 60 surge staff participating in the exercise (including staff on standby roster) 52% completed the post-exercise perceptions survey. Not all identified operational surge staff were available for the exercise due to annual leave, sick leave or urgent work commitments.

Perceived knowledge and familiarity with pandemic influenza increased following the exercise from 46% to 93% (p value <0.01), as did participants' self-reported ability to communicate with the public concerning an influenza pandemic (from 30% to 86%; p<0.01) (table 2). Confidence to perform duties and to work safely in their new environment also increased (from 46% to 90%; p<0.01 and from 36% to 86% p<0.01, respectively). Specific themes that emerged from the open ended responses included open discussion with family and work colleagues and a valuable learning experience.

Table 2: Public health surge staff pre- and post-influenza pandemic risk perception survey results, HNEAHS 2008.

Agreement	pre n(%)	post n (%)	χ^2	p value
Pandemic likely to occur in the future	29 (48)	23 (77)	6.97	<0.01
Knowledge of public health impact	27 (46)	28 (93)	19.1	<0.01
Confident in the area health service's preparedness for an influenza pandemic	19 (31)	24 (80)	19.27	<0.01
Mentally prepared to respond to an influenza pandemic	25 (41)	24 (80)	12.32	<0.01
Knowledge of role during an influenza pandemic	7 (12)	30 (100)	64.48	<0.01
Confidence in skills	28 (46)	26 (87)	13.84	<0.01
Awareness of infection control	31 (51)	28 (93)	15.92	<0.01
Confident in safety while at work	21 (36)	25 (83)	18.15	<0.01
Confidence to perform public health duties	28 (46)	26 (90)	15.60	<0.01
Confidence to undertake case management	23 (38)	24(83)	16.00	<0.01
Confidence to undertake contact tracing	29 (48)	28 (93)	17.98	<0.01
Family prepared to function while respondent is at work during an influenza pandemic	25 (42)	24 (80)	11.83	<0.01
Discussed working during a influenza pandemic with family	13 (22)	23 (77)	24.60	<0.01
Able to communicate with public concerning an influenza pandemic	18 (30)	25 (86)	25.30	<0.01
Importance of role to the overall response	33 (56)	28(97)	15.05	<0.01
Willing to respond to future pandemic	28 (47)	23 (82)	9.42	<0.01

DISCUSSION

The workload in public health agencies during a pandemic is considerable and requires additional investment if the novel surge challenges are to be effectively met. The field exercise demonstrated to participants and expert observers that senior nurses were able to rapidly build on their existing skill base to function effectively in providing public health surveillance functions under the leadership of public health experts.

Senior nurses are already experts in their field, and are thus able to rapidly prioritise tasks. While the nurses were placed in an unfamiliar work environment, their existing daily skills i.e. communicating with patients and families, undertaking assessments, decision making based on findings, dealing with medication and working in stressful environments, appeared to prepare them well for the deployment (Brenner 1984). The skills and confidence developed during the exercise were demonstrated during the 2009 first wave of the influenza A H1N1 (pH1N1) pandemic response when the same Clinical Nurse Consultants, Nurse Educators and Nurse Managers performed as the public health surge workforce.

While finding the appropriate surge staff is the first step, they must be engaged and trained appropriately to ensure they are willing to report to work (Barnett et al 2005). A constraint disclosed by surge staff during the exercise were existing deadlines and responsibilities related to their substantive jobs. This demonstrates the importance of engaging their existing line managers to ensure reallocation of these responsibilities during public health surge deployment to avoid unnecessary additional stress.

While senior nurses may be asked to respond during an influenza pandemic, they also must be willing and able to report to work. For many, while they have the underlying skills needed, they are not experts in the area of communicable disease, reducing their confidence to deal with the situation. Research concerning the willingness to report to work indicates about 16% of public health employees are not willing to report to work during an influenza pandemic in the United States of America (Barnett et al 2009) and 33% of front line health workers would not report to work in a similar study in Australia because of perceived increased risk to themselves or their families (Hope et al 2010).

The field exercise appeared to change specific surge staff perceptions towards working during an influenza pandemic. A previous study on the willingness of health workers to report to work during an influenza pandemic indicated that factors influencing reporting to work were: family preparedness, confidence in skills required, confidence to work in a different area knowledge or role, likelihood of event, the health services preparedness, and confidence in communicating with the public on the topic. By providing background information and then putting that training into action during an exercise, surge staff learnt about an influenza pandemic and some of its potential consequences. In addition they had the opportunity to work with people they would later work with during the pandemic response, they were able to actively carry out their role and practice communicating with people concerning an influenza pandemic. The evaluation also indicated many discussed the exercise and what might occur if a pandemic emerged with family and colleagues.

A previous review was inconclusive on the role of training interventions for health care workers in improving their knowledge and skills in disaster response (Williams et al 2008). The field exercise used in this study has shown that providing training and then putting the training into action is an appropriate strategy. While the training package requires some alteration it served as a good reference for the surge staff involved, but by itself appeared inadequate to effectively train surge staff alone.

Limitations

This study focused on the operational aspects of a public health containment response to an influenza pandemic only. While this study focused on deployment of senior nurses as operational public health surge personnel it is likely that other professionals could also be utilised such as allied health professionals, environmental health officers, and possibly even health students. The deployment of environmental health officers was confirmed during the recent pandemic response.

While this study provides some evidence that background information and exercises do assist

in preparing staff to work during an influenza pandemic, the study was limited by small sample size, the response rate to the post-exercise survey and the inability to match individual changes in perceptions.

CONCLUSION

Exercise deployment and evaluation confirmed that advanced nurses, such as clinical nurse consultants, nurse educators and nurse managers, working within a health authority are an appropriate surge workforce during public health emergencies. With appropriate support and training, advanced nurses can quickly develop the necessary skills to function during public health emergencies, including the containment response to pandemic influenza. Consideration needs to be given to reallocating senior nurses' other responsibilities during deployment to limit unnecessary additional stress.

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Premenstrual syndrome and management behaviours in Turkey

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KEY WORDS

Premenstrual syndrome; PMS; management; women

ABSTRACT

Objective

To reveal the ways women experience their symptoms of premenstrual syndrome and how they cope with these symptoms.

Design

This is a descriptive study using the Premenstrual Syndrome Scale (PMSS) to measurement. This scale is 5-point Likert-type and consisting of 44 items.

Setting

This study focused on the experience of menstruation cycles within a group of women aged between 15-49 years who attended the Yenişehir primary care centre in Turkey.

Subject

This descriptive study was carried out on 379 women who experienced menstruation between May and December 2006.

Result

The research data were collected by means of an introductory form and premenstrual syndrome scale. Among participants, 79% experienced moderate to high levels of PMS symptoms. The average scores of the subscales were highest regarding sleep changes, pain, fatigue and irritation.

Conclusion

There were limited numbers of women who used management methods oriented to PMS symptoms and these methods were mostly ineffective.

INTRODUCTION

PMS negatively affects the quality of life of millions of women (Barnard et al 2003; Gianetto-Berruti and Feyles 2002) and studies have shown the prevalence of PMS to range between 5% and 76% (Adigüzel et al 2006; Derman et al 2004; Deuster et al 1999; Marvan and Cortes-Iniestra 2001; Zafran et al 2007). PMS's definitive etiology and how it negatively affects women's health remains unknown; however, it is commonly believed that there are certain changes affecting the fine balance between sex steroids and central neurotransmitters in women who experience PMS (Indusekhar et al 2007; Dickerson et al 2003; Gianetto-Berruti and Feyles 2002). As a result of this change of balance, a series of symptoms may be observed including depression, emotional fluctuations, irritation, anxiety, sleep disorders, increase in appetite, sensitivity and pain in the breasts, bloating, weight gain, stomach ache, headache and fatigue (Dickerson et al 2003; Indusekhar et al 2007; Treloar et al 2002, Stearns 2001). These symptoms may be of such severity that they can disrupt interpersonal relations, social activities, work performance or quality of life (Zafrane et al 2007; Tempel 2001). Even though this is a condition seriously affecting the woman's life, it has been reported that 59.6% of women with PMS symptoms would like treatment for their complaints and only 28.8% seek medical help (Demir et al 2006). They are also reluctant to seek help for treatable PMS symptoms because of attitudinal barriers regardless of the severity of their PMS symptoms (Hylan et al 1999; Kraemer and Kraemer 1998; Robinson and Swindle 2000).

Support and consultation are imperative in assisting clients suffering from PMS (Hsia and Long 1990). Nurses play a key role in informing women about premenstrual symptoms and providing consultations on how to improve their quality of life, as well as encouraging the recognition of this common condition and in helping women cope with these symptoms (Öncel and Pinar 2006).

Previous studies have mostly focused on women's symptoms during their premenstrual period (Indusekhar et al 2007; Khaled and O'Brien 2001), however, very little is known in terms of how women cope with these symptoms during this time.

AIM OF THE STUDY

The purpose of this study is to reveal the ways women experience their symptoms of premenstrual syndrome and how they cope with these symptoms.

METHODS

Participants

This descriptive study focused on the experience of menstruation cycles within a group of women aged between 15-49 years who attended the Yenisehir primary care centre in Turkey. The research involved a randomised sample of 379 women volunteers who attended the venue between May 1 and November 25, 2006. Written permission from the relevant institutions and verbal consent from the participants was obtained to comply with ethical principles. In order to protect the rights of the individuals participating in the study, they were informed regarding the purposes of this study before study data collection commenced and were assured that individual information gathered and their identity would be kept private.

DATA COLLECTION INSTRUMENTS

Information Form

This was a questionnaire comprising eight questions seeking the women's demographic characteristics and the particulars of their menstrual cycles.

Premenstrual Syndrome Scale (PMSS)

This 5-point Likert-type scale, consisting of 44 items, was developed by Gençdoğan (2006) who determined its validity and reliability to assess premenstrual symptoms and their severity. In Gençdoğan's study, Cronbach's alpha coefficient has been found to be 0.75 and was 0.93 in this study. The scale comprised 44 questions with nine sub-scales (Depressive affect, anxiety, fatigue, irritation, depressive thoughts, pain, appetitive changes, sleep changes, bloating). The measurements on the scale are set according to the following scoring system: the response Never was scored as "1", rarely as "2", sometimes as "3", very often as "4" and always as "5" points. In addition, the total score obtained from the sub-scales established the "PMSS total score." The scale's lowest score is 44 and highest score is 220. Where the total gathered score and subscales score reached more than 50% of the highest score possible during the PMSS result

evaluation, this determined whether or not PMS was occurring (Gençdoğan 2006). If the scale's total score reached 88 points or above, this indicates the occurrence of PMS. Increases in the scores indicate an increase in PMS severity (Gençdoğan 2006).

The women who experienced average or higher symptoms were asked, using open-ended questions, what attempts they make to cope with these symptoms. These responses were subsequently grouped within categories.

DATA ANALYSIS

The data were evaluated using the SPSS statistics program and percentage tests have been used for these evaluations.

ETHICAL CONSIDERATIONS

Ethical requirements were met during the conduction of the research and verbal consent was received from the women participating in the study. In order to protect the rights of individuals within the scope of the study, they were informed before the collection of research data about the objective of the study and that the obtained information and the identities of participants would be kept confidential.

FINDINGS

Sample characteristics

The women with menstruation cycles who participated in this study have an average age of 24.9 ± 6.8 and 25.1% completed elementary level education, 50.1% completed university and attained higher degrees, 62.5% are single, 80.7% do not work outside of their homes, and 31.4% are smokers. In addition, 43% of the participants had similar PMS histories in their families (table 1).

PMS total and sub-scales' item score averages

In this study, according to Gençdoğan's scale, the occurrence of the PMS reflects those subjects who score moderate to high levels on the total scale points (score ≥ 88). In this study, there were a total of 301 women (79%) who reported experiencing moderate to high levels of PMS symptoms. The participating women's total score average according to the scale is 108.7 ± 23.33 . The average scores of the subscales were highest in relation to sleep changes (2.76), pain

(2.75), fatigue (2.74), irritation (2.53) and the lowest ratio of depressive thoughts (1.25) (table 2).

Women's coping methods in relation to the PMS sub-scales are shown in table 3.

Table 1: Distribution of identifying characteristics of study participants (N=379)

Identifying characteristics	N	%
Educational background		
Elementary	95	25.1
High school	94	24.8
University and higher degree	190	50.1
Marital status		
Married	142	37.5
Single	237	62.5
Employment status		
Employed	73	19.3
Unemployed	306	80.7
Income status		
Income lower than expenses	33	8.7
Income equal to expenses	217	57.1
Income higher than expenses	129	34.2
Smoking status (cigarettes)		
Smoker	119	31.4
Non smoker	260	68.6
Alcohol intake		
Yes	27	7.1
No	352	92.9
Familial history of PMS		
Yes	163	43
No	216	57
	X$\pm$SS	Min.-Max.
Age	24.9 $\pm$ 6.8	15-47

Table 2: PMS total and sub-scales' item score averages

Sub-scales	X	SS
PMS Total	108.7	23.33
Depressive affect	2.48	.70
Anxiety	2.10	.65
Fatigue	2.74	.72
Irritation	2.53	.73
Depressive thoughts	1.25	.35
Pain	2.75	.98
Appetite changes	2.46	.86
Sleep changes	2.76	1.00
Bloating	1.88	.60

Table 3: Distribution of the women's coping methods in relation to the PMS sub-scales

Sub-scales	N	%
Depressive affect		
Listening to music	13	28.9
Crying	17	37.8
Resting	15	33.3
Total	45	100
Anxiety		
Stepping out of the house	32	53.3
Resting	23	38.3
Taking deep breaths	5	8.4
Total	60	100
Fatigue		
Sleeping and resting	95	94.1
Taking a shower	6	5.9
Total	101	100
Irritation		
Herbal tea	7	18.9
Taking a shower	10	27.1
Self-management of anger	9	24.3
Resting	11	29.7
Total	37	100
Depressive thoughts		
Solitude	8	100
Total	8	100
Pain		
Taking pain-killers	89	57.1
Moving around (exercise, walking and massage)	15	9.6
Taking a shower	15	9.6
Resting	19	12.2
Taking pain-killers and taking a shower	18	11.5
Total	156	100
Appetite changes		
Consuming sweets	88	100
Total	88	100
Sleep changes		
Consuming milk/yogurt	9	52.9
Taking a shower	5	29.4
Taking medication	3	17.6
Total	17	100
Bloating		
Low-sodium diet	9	100
Total	9	100

DISCUSSION

The purpose of this study was to find out how the women aged 15-49 experience PMS and the methods they use to cope with this syndrome. In this study, 79% (301) of subjects were found to show moderate and high levels of PMS symptoms. Demir and colleagues (2006) have found that 91.7% of the women in their study experienced some symptoms during their premenstrual cycles. Through various studies, PMS's prevalence ratio is found to be in the range of 5-76% (Adıgüzel et al 2006; Akyılmaz et al 2003; Daugherty, 1998; Derman et al 2004; Deuster et al 1999; Marvan and Cortes-Iniestra 2001; Yücel et al 2009; Zafran et al 2007). As can be seen, the prevalence of the premenstrual signs in this study differs from previous research. These differences may be because of variation in the scales used, as well as the variations in the women's ages, marital status, occupations, educational backgrounds, race and other characteristics.

The total average score of the women included in this study is 108.7 ± 23.33 . Within the study by Yücel and colleagues (Yücel et al 2009) the scale's total score average was 129.62 ± 33.71 .

Within the PMSS sub-scales, item score averages were highest for changes in sleeping, pain, fatigue and irritation and the lowest was for depressive thoughts.

In Taşçı's study (2006) examining the premenstrual symptoms experienced by nursing students, 39.4% of participants expressed having pain/fullness in breasts, 44.3% having irritation, 47.5% lower back pain and 54.9% stated experiencing fatigue at all times. In Adıgüzel and colleagues' study (2007), the most common symptoms were determined to be discomfort and irritation (72%), anxiety (67.3%), abdominal pain or bloating, lack of energy or easily getting tired (66.6%) and tiredness in the legs (65.5%). Derman and colleagues (2004) have reported that PMS's most common symptoms were negative mood, particularly indicated as stress (87.6%) and irritation (87.6%). Demir et al (2006) observed the symptoms of tiredness in 50% of

the women, symptoms of depression in 21.3%, insomnia in 18.3% and change in appetite in 48.5% of their study cohort. More than 150 symptoms and signs have been attributed to PMS (Deuster et al 1999). In the literature, the most frequently experienced psychological and behavioral symptoms of PMS are reported to be irritability, anxiety, tension, easily crying, mood changes, depression,

sudden anger, confusion, absentmindedness, hypersomnia-insomnia and social isolation. The most commonly experienced physical symptoms of PMS are tiredness, abdominal pain, fullness of the breasts, headache, edema in limbs, joint and muscle pain, acne, increase in the appetite-increase in food intake (Braverman 2007; Dickerson et al 2003; Indusekhar et al 2007; Treloar et al 2002).

Table 4: PMS prevalence and various characteristics of some studies

Study	Age	Marital status	Education	Working outside the home	Scale	Prevalence
Derman et al (2004) in Turkey	10-17	single	< high school	student	DSM-IV	61.40%
Yücel et al(2009) in Turkey	22±1.8		high school	student	Premenstrual Syndrome Scale (PMSS)	62.50%
Demir et al (2006) in Turkey	19-49	57.5% married 40.9% single 1.6 % divorced	> high school	working	DSM-IV	51%
Adıgüzel et al (2007) in Turkey	15-49	88.6% married 9.4% single 2.0% divorced	96.8%< high school 3.2% > high school	87.6% employed 12.4% unemployed	DSM-IV Premenstrual Evaluation Form (PEF)	6.10%
Deuster et al (1999) in Virginia, USA	18-44	59.7% married	36.8%< high school 63.2% > high school		Scores on Menstrual Distress Questionnaire	8.30%
Takeda et al (2006) in Japan	20-49	43.8% married			“The Premenstrual Symptoms Questionnaire” PSQ	95%
Bakhshani et al (2009) in Iranian	18-27	14.3% married	university	student	DSM-IV	98.20%
Sadler et al (2010) in the United Kingdom	20-34		21%> high school 79%< high school		Moos Menstrual Distress Questionnaire	24%
Tschudin et al (2010) in Switzerland	15-54	48.5% married	28.3%> high school 71.7%< high school		Premenstrual symptoms screening tool (PSST)	91%
Vichnin,et al (2006) in USA	13-18	single	adolescents	student	Retrospective symptom questionnaire (RQS)	86%

There were 45 subjects who utilised coping methods for depressive mood swings in the PMS's sub-scale. Within this group, 28.9% preferred listening to music, 38.8% crying, and 33.3% resting. When experiencing PMS symptoms such as depression, anxiety, irritation or similar psychological signs, lifestyle changes such as exercising, stress management techniques, massage, relaxing exercises as well as cognitive-behavioral therapy may help reduce or relieve PMS symptoms (Dickerson et al 2003; Hsia and Long 1990; Lurie and Borenstein 1990; Tempel

2001; Ugarriza et al 1998). Also Calcium treatment resulted in an approximately 50% reduction in total mean symptom scores with a significant improvement of symptoms such as depression, mood swings, headache and irritability (Derman et al 2004). The women included in this study attempted to reduce their stress levels using such methods as listening to music, breathing deeply, or stepping outside of their homes, however, they did not report achieving a desired level.

Among the total of 101 subjects who have tried coping with the state of fatigue shown in the fatigue sub-scale, 94.1% preferred sleeping and resting and 5.9% taking showers. This indicates that women experience fatigue quite often and are significantly affected by it.

There were 156 women in the study who use a coping method for pain. Within this group, 57.1% stated they preferred taking painkillers and 9.6% used moving around (exercise, walking, and massages) to control their symptoms. The number of women who tried to get rid of pain during their premenstrual period was higher in comparison to other symptoms. These women preferred pharmaceutical methods more often in the case of physical symptoms such as pain. The number of women who prefer non-pharmaceutical methods such as exercising was significantly low (Khaled and O'Brien 2001). This may be because women are not knowledgeable regarding the positive effects of this method in getting rid of pain. It can be recommended to provide educational programs arranged by nurses for women to address coping with PMS.

A total of 88 subjects used a coping method to deal with appetite changes and all in this group indicated that they consumed desserts. During their premenstrual period, women often have the desire to consume sweeter foods. Nonetheless, there are various results indicating that excess consumption of sweeter food has an effect on the PMS symptoms during this period (Demir et al 2006; Sayegh et al 1995).

Only nine subjects used a coping method to deal with bloating and indicated that they used a low-sodium diet to cope with this symptom. This involves a restriction of sodium intake due to the bloated feeling of the body, which is linked to water retention during the premenstrual period due to sodium having the ability to retain water in the body (Daugherty 1998). In addition, given that magnesium and calcium lower water retention, there must be other changes made in the diet to increase the intake of these minerals (Indusekhar et al 2007; Steiner 2000).

There were only 17 women who tried to cope with their sleep changes, a significantly low number. Most of these women consumed milk and yogurt in order to deal with this symptom (table 3). In various studies, calcium consumption showed different effects on the symptoms of PMS (Braverman 2007; Derman et al 2004; Frackiewicz and Shiovitz 2001). In Derman et al's study (2004) it was found that the patients consumed more than 200 ml of milk, 300 ml yoghurt and more than 50 g of cheese per day, the frequency of PMS was less. In Bertone-Johnson et al's study (2005) high-level calcium and vitamin D intake showed a lowering of the risk of PMS. Thus these few women in this study may have had the right approach; however, they applied this method only for their sleep-disorder complaints despite its ability to prevent other symptoms.

CONCLUSION

It can be concluded that coping methods for PMS symptoms are not frequently implemented. These results show that women, who are highly affected by PMS, must be more educated in terms of dealing with these symptoms. As a result of these studies, it is determined that the symptoms of PMS can be lowered significantly when nurses educate women about them (Min 2002; Morse 1999).

RECOMMENDATIONS

The following steps are recommended for women suffering from PMS symptoms:

- assessing women in relation to their PMS symptoms;
- guiding women who show severe symptoms of PMS; and
- suggesting women make journal entries regarding their menstrual cycles.

Consequently, these steps will improve recognition of the symptoms and aid assessment of causes contributing to their increase. In order to lower PMS incidences and to improve the women's quality of life, more attention must be paid to this subject and necessary precautions can be suggested.

LIMITATIONS OF THE STUDY

Exclusion criteria for the study were determined as: 1. pregnancy, 2. having undergone over or total abdominal hysterectomy operation, 3. being in postmenopausal period, 4. having a physical or mental condition that may prevent giving healthy answers to questions.

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What is psychosocial care and how can nurses better provide it to adult oncology patients

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KEY WORDS

psychosocial care, oncology, communication,
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ABSTRACT

Objective

This paper explores psychosocial care; the potential barriers, how nurses provide it, utilise assessment tools and the impact, issues and benefits of providing effective psychosocial care.

Primary argument

Nurses are in a unique position to monitor patients and their psychosocial care. However there remains a barrier to exploring some of these facets of care. Nurses need to be more inclusive of patient's sexuality, spirituality, optimism and hope when assessing psychosocial care and quality of life as these subjects can be the least explored by staff with their patients.

Conclusion

As hospital nurses we see the patient and their family throughout their cancer journey and are in a unique position to monitor a patient's psychosocial coping and any distress. Providing psychosocial care to patients is essential but can be an over looked part of nursing care. In university we are taught how to be nurses but how to communicate with patients and other health care professionals is part of on the job training. Psychosocial care is part of a holistic patient perspective and allows patients to seek both informational and emotional support from care givers to help them manage their cancer journey.

INTRODUCTION

Psychosocial care is important not only to patients but also to the staff providing that care. Patients consistently report having significant informational and emotional needs that are often unmet during their cancer journey (Sussman and Baldwin 2010). Nurses can provide both care and support with verbal and written advice to patients. Written information is especially important for newly diagnosed patients who may not retain a lot of information due to an overload of information at initial diagnosis. This allows patients to base their understanding of cancer on sound information rather than anecdotes and misinformation (Moody 2003). Nurses play a pivotal role in the psychosocial care of oncology patients throughout their journey. Nurses see patients at their worst and at their best; from diagnosis, through treatment, through to cure or palliative and end of life care, it is a long journey which is shared between patient and health care practitioner. There are two important issues in the delivery of psychosocial care to cancer patients: recognition of distress and the available mental health resources (Muriel et al 2009). The question then is how effectively do we address psychosocial care with our patients?

What is psychosocial care?

Psychosocial support involves the culturally sensitive provision of psychological, social and spiritual care (Hodgkinson 2008). Nurses play a unique role in supporting patients; by building dialogue with patients nurses can begin to understand how patients view themselves as individuals, what is important to them, and how their relationship with others may affect their decisions and their ability to live with those decisions during their treatment and beyond (Ellis et al 2006). Good communication and assessment skills are essential to building a rapport with patients and can help the nurse develop a clinical relationship with the patient and their family. In some cases cancer can be considered a chronic disease, and with that the patient and their family will be hospitalized throughout their disease trajectory. This gives hospital based nurses the optimal chance of building and gaining patients trust and initiating

support for patients and their family. Nurses strive to treat patients individually as each patient requires specific physical, symptomatic and psychosocial care (Watts, Botti and Hunter 2010). The provision of good psychosocial care has been shown to be beneficial for patients by reducing both psychological distress and physical symptoms through increasing quality of life, enhancing coping and reducing levels of pain and nausea with a consequent reduction on demands for hospital resources (Ellis et al 2006; Carlson and Bultz 2003).

Why is psychosocial care important?

Approximately 350,000 Australians are diagnosed with cancer each year and as a consequence will experience a variety of psychosocial and emotional responses (Botti et al 2006). A study by Kenny et al (2007) found up to 60% of patients diagnosed with cancer have major difficulties dealing with psychological issues and these patients report oncology providers do not consider psychosocial support integral to their care and fail to recognise, adequately treat, or offer referral for psychological distress (Muriel et al 2009). Psychosocial care is important; it has a huge impact on quality of life and encompasses a broad spectrum of issues in cancer care including physical, social, cognitive, spiritual, emotional and role functioning as well as psychological symptomology, pain and other common physical symptoms such as headaches, sleep disturbance and gastrointestinal upset (Carlson and Bultz 2003). All oncology patients will be affected in some way by their treatment. Structured assessment undertaken by oncology nurses enables us to identify patients at risk for poor adjustment early and can help to direct the use of interventions aimed at fostering a sense of optimism and ultimately improve health related quality of life during survivorship (Mazanec et al 2010). As hospital nurses we see the patient and their family throughout their cancer journey and are in a unique position to monitor a patient's psychosocial coping and any distress. Emotional distress can occur at any time along the disease trajectory and is defined as a change in thinking, feelings and behaviours that occur in the response

to diagnosis, prognosis, treatment and events that occur in the clinical course of cancer (Grimm 2005). Just as the patient is an individual so to is the disease trajectory on which they travel and there is no uniform response to treating all patients with the same type of cancer in the same way.

How can we provide psychosocial care?

Providing good psychosocial care comes down to good communication skills, both verbal and non-verbal. Communication in the context of cancer care includes general interactional skills to convey empathy and support and to provide medical information that is understood and retained. A relationship of health care providers with patients is based on trust, being open and honest, understanding, being present, respect, setting mutual goals and providing social support (Ritchie 2001). This relationship can be an important support and buffer for cancer patients experiencing distress (Rodin et al 2009b). Non-verbal communication can convey a great deal to patients who may scrutinise their doctors or nurses for nuances of expression or demeanour (Fallowfield and Jenkins 1999). Non-verbal communication is seen by patients as indicators for good or bad news just as much as the actual words spoken. Verbal communication is crucial to building and maintaining this relationship, to transmit information, to provide support and to negotiate treatment decisions (Rodin et al 2009a). The relationships nurse's build with patients can also vary among patients; the age and gender of the patient can have an impact on the relationship built. There can be a difference in tactics when discussing the same complex issues with patients of different ages. It is important to provide informational support that consists of the availability and provision of concrete and age-appropriate information (Zebrack et al 2010). Patients will be in different life stages so issues such as fertility, finance and study may affect different people in different ways. Part of the nurse's role in psychosocial care is being able to provide the resources and education particular to the individual patients needs.

Nurses as well as other practitioners need to create an environment in which the patient feels comfortable and safe to relate and communicate. This therapeutic relationship plays a vital role to

patients and their families and they do rely on nursing staff for the emotional journey they are on. Oh and Kim (2010) have shown that psychological issues can influence cancer recovery with patients that experience psychological distress such as anxiety and depression often experiencing increased physical side effects and more difficulty managing their self care and experiencing an overall reduced quality of life. Vodermaier et al (2009) state that relatively brief but validated questionnaires would seem to be the tools of choice for routine screening of cancer patients emotional distress. An advantage to systematic screening of cancer patients for emotional distress is that it is likely to promote equal access to psychological services, where as a system based only on physician or patient initiated referrals might fail to identify and/or overlook a substantial proportion of emotionally distressed patients who are in need of supportive treatment. Cancer in particular is known to be a highly stressful experience associated with emotional difficulties (Lin and Bauer-Wu 2003).

What issues need to be more thoroughly addressed by staff with patients to improve quality of life?

Nurses need to be more inclusive of patient's sexuality, spirituality, optimism and hope when assessing psychosocial care and quality of life. Cancer is considered to be de-sexualising, having both a direct effect on a person's sexual response cycle and an indirect one on body image (Kotronoulas et al 2009). In cancer care specifically there appears to be a conception that people with cancer do not have sex (Quinn 2003). Every human being has a sexual dimension; even patients with advanced cancer or terminal care have a fundamental need for human intimacy. Anxiety, depression, despair, feelings of social isolation, lowered self-esteem, fear of abandonment, loss of control over bodily functions, and so on may also affect one's manifestation of sexuality (Katronoulas et al 2009). Assessment and good communication skills are important to building therapeutic relationships, thus allowing patients to feel comfortable in verbalising their feelings. Oncology nurses need to possess knowledge as well as exert sound judgement and a high level of sensitivity in dealing with patient's sexual health needs. A study by Katronoulas et al (2008) found nurses often

fail or avoid addressing, assessing and discussing sexual problems with their patients and prefer to deal with it when patients bring up their sexual health. Barriers to taking a sexual history in assessment include lack of time; fear of intruding or offending the patient, belief that cancer patients are too ill or not interested in sex, belief that disfigured bodies are not sexually attractive, lack of adequate training/skills, cultural issues; gay patient, single patient, different cultural beliefs about illness and disease, age and gender of patient, presence of a third party (partner, parent) and a fear of opening 'Pandora's box' in regard to previous sexual assault or difficult relationship (Sundquist and Yee 2003).

Spirituality also needs to be addressed more proactively in hospital settings. Spiritual well-being is a subjective experience that occurs both within and outside of traditional religious systems (Rodin et al 2009); spirituality is especially awakened at the end of life as patients seek purpose and meaning (Demierre et al 2003). A palliative care centre review conducted by Mishra et al (2010) found 98% of patients interviewed with advanced cancer were spiritually grounded to their faith and religion and believed that God would help them. Another benefit of patients faith was it was found it helped to decrease these patients' anxiety. A review conducted by Mazanec et al (2010) found that spirituality was the strongest predictor of social well-being and a significant predictor of emotional and functional well-being in the quality of life of patients and families with cancer. Screening for spiritual distress is an integral component of psychosocial care provided by oncology nurses and may be facilitated by a simple assessment tool. Evaluation of a patients' sense of spiritual well-being may also provide another avenue by which to assess optimism, given the significant correlation between optimism and spirituality and finding that spirituality significantly predicted health related quality of life (Mazanec et al 2010). Patients with spiritual distress need to be referred to a trained spiritual care provider, which are either present or can be accessed in all Australian hospitals.

Optimism is a personality feature that has been associated with psychological well-being and

positive health outcomes in healthy individuals and in patients with cancer (Mazanec et al 2010). Optimism and pessimism have been linked to coping styles; optimists tend to use active problem solving strategies when confronted with a stressor, whereas pessimists generally use avoidant coping. Optimism is a complex characteristic with cognitive, emotional and motivational aspects. Mazanec et al (2010) suggest that bolstering optimism by reducing negative thoughts is an interventional strategy that may have implications for patients with cancer. Identifying patients coping strategies can help to identify the amount and type of psychosocial support the patient will need.

Hope is an important component in psychosocial care. Reb (2007) states that hope includes reflection, re-evaluation, finding meaning and the development of new goals. Revising goals so they are flexible and more realistic allows people to be more motivated to achieve attainable goals. Hope is not only based on a cure or being disease free but attaining the best quality of life they can have. Focusing on attainable goals can promote a sense of meaning and personal control. Nurses find the balance between truth telling and nurturing hope is an important aspect of fostering hope (Schofield et al 2006). Some nurses believe fostering false hope of a cure when a cure is not possible ultimately can be a source of regret as it may hinder patients and their family from making sensible treatment and lifestyle decisions. A study conducted by Reb (2007) found that communication style and relationships with healthcare providers were significant recurring themes that influenced hope. Nurses need to be able to engage patients and their families positively and to provide hope no matter what the shape hope comes in.

What are the limitations to providing effective psychosocial care?

To provide effective psychosocial care, it is a requirement that we build a relationship with the patient, however to build this relationship there is need to gain the patients trust and it is not until this trust is gained that psychosocial care can be provided. Primary care nursing is essential for both

the nurse and the patient to continue with continuity of care, however whilst an important role it does not facilitate the establishment of new relationships for the patient as they are always with the same nurse. In a work-force that is mainly made of part-time workers it is increasingly hard to build quality therapeutic relationships with patients when staff are exposed to patients on an intermittent basis. Another pitfall of this continual change in carers can be ineffective communication occurring between the ward nurses and the ward doctors as well as between the ward nurses themselves (Botti et al 2006). Lack of communication can be reflected by staff either repeating or omitting things said on a previous shift and patients becoming distressed because they feel that no one is sure what is happening.

Health professionals who feel insufficiently prepared in communication skills are reported to have a higher level of stress (Botti et al 2006). There is evidence of high stress levels among oncology nursing staff and that a common source of stress is associated with the provision of emotional support for patients and their families (Botti et al 2006).

A study by Botti et al (2006) found that high workload and a lack of available time were cited as potential barriers that limited nurse's opportunity to sit down and engage in conversation with patients to elicit their specific needs. In a study by Mishra et al (2010) doctors and nurses stated they were unwilling to enquire about the psychological impact of the diagnosis and treatment of cancer because they were concerned they may not be able to deal with any problems they may elicit and if encountered it would take so much time that they can not cope with their workload. However, Kenny et al (2007) argue that nurses often use work pressure as 'blocking tactics' which prevent patients from divulging information that nurses do not feel they have the capacity to deal with.

Health practitioners have recognised the difficulty in setting professional boundaries when providing care (Watts et al 2010). Professional boundaries provide limitations on behaviours between health professionals and patients in recognition of the power

differential between the influence of the former and the vulnerability of the later (Lancaster 2008). The potentially chronic nature of cancer as an illness means that health care professionals are more likely to have a prolonged therapeutic relationship with patients and their families.

Mishra et al (2010) found that doctors and nurses use interviewing strategies designed to keep the interview emotionally neutral instead of asking more appropriate questions about a patient's psychological adaption or lack of it. The use of these distancing tactics has been found to be common in both doctors and nurses.

The balance between providing quality psychosocial support and the emotional impact of their role has been identified by many authors as a type of conflict that ultimately leads to emotional exhaustion (Kenny et al 2007; Botti et al 2006). Nurses working in oncology clinical environments have high levels of perceived stress, emotional exhaustion and professional burnout (Watts et al 2010) and a report by Barrett and Yates (cited in Watts et al 2010) states that more than 70% of their sample of Australian oncology nurses are experiencing moderate to severe stress. Burnout is a syndrome of physical and emotional exhaustion and is especially common in highly technical and highly emotional areas (Watts et al 2010). This is also exacerbated as nurses who care for patients with cancer are often committed to and often develop close therapeutic relationships with them. For nurses to be emotionally present requires openness, commitment and the ability to understand the patient's world as he or she views it (Ritchie 2001). The inability to debrief in the professional setting resulted in any unresolved issues being transferred to the personal environment. Watts et al (2010) discussed that with experience, one is able to leave patient-related experiences at work, suggesting the nurse new to the area is particularly vulnerable to negative patient experiences. Nurses themselves can be a limitation to providing effective psychosocial care. If nurses do not take care of their own psychosocial care they may not be able to give a lot of themselves to their patients. Whilst we are

taught not to get emotionally involved with patients it can be hard not to form attachments with patients that represent frequently to the hospital or day centre. Experience can allow nurses to manage the emotional toll better than junior staff; however we need to ensure we can retain junior staff by providing them with support as required as well.

What are the benefits to providing effective psychosocial care?

Biomedical researchers have begun to acknowledge that cancer treatment itself (surgery, radiation, chemotherapy) can result in long-term psychological impact which can in turn impact quality of life (Boykoff et al 2009). Due to the nature of cancer it is easy to recognise the impact that nurses can have on assessment and intervention along the disease continuum. It is not an essential component in assessing patients for emotional distress that nurses have any background knowledge in mental health. Rodin (2008) suggested nurses with no previous psychiatric experience can deliver a cost-effective collaborative psychosocial intervention for cancer patients with major depressive disorder.

By providing appropriate psychosocial care we can decrease the time patients are in hospital with side effects relating to anxiety and stress. Hospitals and health care systems are looking for cost effective ways to help meet budget demands whilst still achieving customer and patient satisfaction.

How we can improve psychosocial care

Cancer care can be a stressful working environment for staff that are called upon to deliver highly complex and technical care while constantly dealing with the distress and suffering of very ill and dying patients and their families (Lancaster 2008). Oncology work environments can be improved by focusing on modifiable factors such as staff development that will lead to better job satisfaction and staff retention (Watts et al 2010). The development of effective strategies to assist clinicians to use communication skills in the provision of care is fundamental to achieving optimal psychosocial outcomes for patients (Botti et al 2006). Such communication is vital to enable the provision of appropriate, accurate, and

detailed information to the patient and the key stages relating to the pathological process of the disease.

Clinical supervision is well recognised in the literature as an effective strategy for enhancing professional development, promoting self-awareness, and providing support, and has been used extensively across professional groups (Botti et al 2006). Clinical supervision offers the opportunity for reflection and self-insight and can be a medium for exploring issues such as over-involvement and dependency that can develop when caring for people with cancer (Kenny et al 2007).

Time constraints of health professionals and insufficient knowledge about the appropriate screening tool may partially account for the infrequent use of high-quality screening instruments in cancer care settings (Vodermaier et al 2009). It is important to ensure that nurses have the necessary time management tools to provide efficient and timely nursing care.

CONCLUSION

Nurses use psychosocial support to help establish therapeutic relationships. These relationships are built through psychological, social, and spiritual care. Today, effective high quality cancer care is viewed as involving more than just the delivery of anti-cancer therapy. Increasingly cancer service providers are required to address patients supportive care needs (Harrison et al 2009). As hospital nurses we see the patient and their family throughout their cancer journey and are in a unique position to monitor a patients' psychosocial coping and distress. Empowering patients through support and education enables them to have some feeling of control. Health care professionals that use empathy, understanding, and reassurance contribute to positive psychological outcomes for patients (Lin and Bauer-Wu 2003). Patients feel supported in a holistic approach that focuses on their quality of life, intimate relationships, and social situation (Sundquist and Yee 2003).

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