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EDITORIAL

Jill Iliffe
AJAN Editor

In 2005, the World Health Organization released their guidelines on hand hygiene in health care: Clean hands are safer hands (WHO 2005). According to the WHO, 'one of the most powerful approaches to fighting health care related infections is also the simplest; health care providers need to clean their hands every time they see a patient'. Nurses have the most contact with patients seeking health care and because of this nurses have a primary responsibility for preventing adverse outcomes due to breaches in hand hygiene. Are nurses committed to hand hygiene? Do they adhere to the WHO guidelines? Do nurses even know the WHO hand hygiene guidelines exist?

The study by van de Mortel aimed to determine the reliability and validity of a hand hygiene questionnaire (HHQ) developed to examine health care students' hand hygiene knowledge, beliefs and practices. The study was conducted with undergraduate students of nursing. The HHQ demonstrated adequate reliability and validity and van de Mortel argues that it should be further tested on a wider sample of health care students with a view to improving nurses' knowledge of and adherence to hand hygiene in all health care settings.

Woodhouse explore the interaction between generalist community nurses and external nursing teams in shared care arrangements in a rural setting. Woodhouse argues that sharing of care between different nursing teams can allow for the improved use of minimal resources available in rural communities. The study generated four themes: a

lack of understanding of each teams' roles; difficulties in communication of information; the importance of setting shared goals in care planning; and the need for collaboration to ensure clarity in case coordination. Results suggest that confusion around roles; skill; communication; care planning; and coordination of care within a shared care model create barriers to the effective sharing of care. Woodhouse suggests that co-location of services could enhance the sharing of care.

In a study based in the UK, Lee examined the effect of comorbid illness on the health related quality of life (HRQoL) of patients after coronary artery bypass graft surgery (CABGS). Lee found that the presence of comorbid illness impacts significantly on physical HRQoL five years after CABGS but no such effect is noted in mental wellbeing. From a nursing perspective, Lee argues that the importance of comorbid illness should be taken into account when planning physical activities after CABGS, when educating patients about the benefits of CABGS, and when setting realistic expectations after surgery.

Continuing the cardiac theme, Fan et al examined cardiac patients' knowledge and use of sublingual glyceryl trinitrate using the Sublingual Nitroglycerin Interview Schedule. They found that patients' have limited knowledge of and do not always appropriately use SLGTN and that there is a need to develop and implement educational strategies to facilitate greater self-management of angina.

In research based in a paediatric outpatient clinic in Turkey, Yildiz et al surveyed parents of children with congenital heart disease to identify factors that influenced their level of distress with a view to raising awareness of the need for health professionals to provide routine psychological and emotion support. The research found that mothers had higher scores than fathers on all distress dimensions and that the

intensity of distress for both mothers and fathers increased with the severity of the child's disease.

Kiyak et al evaluated the impact of the use of wool on the quality of life of patients with fibromyalgia. The study was conducted in two stages with a single-group pre-test/post-test model in a physical therapy and rehabilitation outpatient clinic and in patient's homes in Turkey. The results demonstrated significant improvements in pain score, tender points count, Nottingham Health Profile in all sections, and the Pittsburg Sleep Quality Index and its components, as a result of the use of woollen underwear, woollen bed coverings, woollen mattress cover and woollen cushions in patients with fibromyalgia.

The study by Hill et al, using the latest National Stroke Foundation Clinical Guidelines for Acute Stroke Management, explored which member of the multidisciplinary team would be most likely to take responsibility for the lead role in implementing each recommendation in an effort to determine whether nurses took the lead role. They found that the multidisciplinary team took the lead role most often, followed by medical practitioners and then nurses and that there was a much greater opportunity than was currently being realised for nurses to take the lead role.

The imperative for nursing students to develop critical thinking skills is the basis for the study by Karadag et al who explored the effectiveness of using DeBono's 'six thinking hats' model with a surgical nursing class. The 'six thinking hats' model was used in theoretical lessons about breast cancer, spinal cord trauma and transplantation nursing and the students' opinions were sought about the 'six thinking hats' model of learning. The majority of the students stated that the 'six thinking hats' method of learning facilitated their empathising with the patient; sharing different ideas and opinions; considering the patient holistically; generating creative ideas; looking at an event from positive and negative aspects; and developing their system of thinking. Karadag et al argue that the study is important because it adds to the improvement and enrichment of nursing education

Hargie et al examined cancer patient's 'sensemaking' of conversations with cancer nurses. Their study was designed to investigate how and in what ways patients interpret initial consultations with cancer nurses in terms of how they perceive the role of the nurse. They found that preconceptions of the role of the nurse were limited, with the nurse perceived as playing a mainly functional, task-centred, role. Patients' experience after their conversations with the cancer nurses broadened their sense of the nurses' role to encompass a psychosocial supportive role.

The effect of the presence of nurses on reducing stress in older people resident in two nursing homes in Korea was the subject of research by Gyeong-Ju and Kae-Hwa. The study found that following the intervention, which consisted of structured time with registered nurses over a four week period, stress, problem focused coping, and cortisol levels were significantly improved in the experimental group compared to the control group. The authors concluded that the use of a 'nursing presence' program is an effective intervention for reducing stress and improving problem focused coping in older adult nursing home patients.

Johnstone and Kanitsaki provide a timely reminder about the dangers of demographic alarmism in their paper on the politics of population ageing. The authors examine the prejudices and politics framing current public debate on population ageing in Australia and the possible implications for the allocation of required health and social sector resources. They argue that this view is not supported by the evidence and that the nursing profession has a fundamental role to play in ensuring responsible debate about population ageing and contributing to public policy agenda setting for the effective health and social care of Australia's ageing population.

The study by Piltz and Wachtel aimed to identify the barriers that inhibit nurses reporting suspected cases of child abuse and neglect. Using an integrative review of the literature, they found limited education on recognising signs and symptoms of abuse was a major barrier to reporting. Other barriers include limited experience, poor documentation, low opinion

of child protection services, fear of perceived consequences, and lack of emotional support for nurses through the reporting process. The concluded that the introduction of compulsory mandatory reporting education should be considered for all undergraduate and post graduate nurses in order to reduce identified barriers to reporting and offer greater protection for children, the most vulnerable members of society.

The previously little known contribution of nursing care at the liberation of Bergen-Belsen concentration camp is explored in the paper by Ben-Sefer using relevant literature, archival material, correspondence,

diaries, testimonies and personal correspondence. Ben-Sefer argues that the work of doctors has been well publicised, however little has appeared in the literature that details the contribution of nurses. In a moving tribute to the work of the nurses, Ben-Sefer concludes that the work of the nurses during the liberation of Bergen-Belsen was life saving for their patients and life changing for the nurses.

World Health Organization. 2005. Clean hands are safer hands. WHO guidelines on hand hygiene in health care. Available from: <http://www.who.int> (accessed February 2009).

Reflections on nursing



GUEST EDITORIAL

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As we approach the end of the first decade of the 21st century it is timely to ask ourselves if nursing has changed and whether it is going somewhere in the future? I hope so.

During my career in nursing there have been great changes in approaches to nursing education, management and clinical practice. However the cornerstone of nursing still remains client/patient relationships and care. In the sixties when I was a trainee nurse in the apprenticeship model, nursing was very much based on a military model. As a first year student I would think very carefully before I spoke to a registered nurse - 'the Sister' - was far above me in the pecking line. Thankfully this has disappeared to some extent but unfortunately the atmosphere can still be treacherous with bullying often rampant in some clinical areas. We need to work to make nurses resilient to such threats and not tolerate this behaviour in the workplace.

In the sixties, nursing was task oriented although we often worked in teams and were always there to help each other - I hear frequently this is not the case today - we need to care for each other. Through the decades, many models of nursing care have been in vogue from team nursing to patient allocation to primary nursing. Today when meeting with clinicians and nurse manager the emphasis is on multidisciplinary teams and patient oriented care.

However we could question whether this is really a reality. In the clinical area today the emphasis for managers is often forced to be on fiscal aspects of care and often the nurse/patient interaction and care at the 'bedside' whether in hospital or in the community is the last aspect that is examined in trying to provide safe and effective care. Care needs to be orientated to the patient and no matter what model of care is proscribed, patient safety and effective care is paramount.

In reality, the quandary between caring and workplace demands has not changed. Nurses may be more vocal than in the sixties but we need to strive for a stronger place in the health system before executives will take notice. Often in area health services the nurse executives have little power - we must fight for power to improve the workplace for other nurses and for our patients. I look forward to seeing many more nurse practitioners take their place in the scheme of things. In the seventies when they were educating nurse practitioners in the USA, I thought of going over on a study program. I am glad I did not as it is now 30 years on and we are still fighting for access to Medicare - well into the future!

In the sixties, under the apprenticeship system of nursing education, we attended lectures often after a long day or night shift. The introduction of the 'block' system of education where nurses were relieved from nursing duties while in the school for lectures seemed such an advance in the late sixties and early seventies. In those days we were predominantly lectured to by doctors with nurse tutors supplementing the doctor's 'wisdom'. My career went the way of many nurses in the sixties and seventies. I did my general training, followed by midwifery and then a specialty. I decided on renal nursing when I was in the United Kingdom. I did my course and while

finishing decided to return to Australia to finish a science degree I had started after completing high school before I went into nursing. It thought I would do part-time renal nursing and full time university. This was too difficult - the option to do part time nursing was not favoured in the health system in the seventies. To make life easier for myself I decided to do teaching fulltime and part time university - no shift work and a Monday to Friday job. I thus ventured into the area which has predominantly been my focus ever since.

Until the transfer of all nursing education into tertiary institutions in the eighties the focus of nurse educators was safe nursing practice and getting students through the nurses' registration board examination. In the sixties these were paper based examinations and in the seventies multiple choice examinations were the mode of choice. I spent much of my time in the early seventies working on multiple choice question banks for final year nursing students. An interesting task but questionable educationally. We still use this mode of examination but it must be mixed with other assessment models to provide future nurses with the communication skills they require.

In the mid eighties I was at the forefront of the move to tertiary education for nurses. I wrote the first curriculum for a diploma program at a College of Education in 1984 and saw the advent of degree programs in a few short years. In less than a decade after this introduction to tertiary education, PhD programs in nursing were popping up all over the country. Do we use the tertiary path of education effectively? There have been and are many models

of this graduate education, including clinically based Masters degrees and leadership focused Masters degrees. Professional Doctorates and PhDs have been developed side by side. Nursing in Australia needs to examine what this education is doing for nursing in the clinical area. From published research I have conducted with graduates from doctorate programs, it is clear we need to recognise their qualifications, including their titles and find a real use for them to improve patient care.

In the late 90s after a decade of educating nurse up to PhD level in tertiary institutions I took up a clinical professoriate position in Western Sydney. This has provided me with a bridge between academia and the clinical area and an open window to explore nurses' roles in various milieus. In many studies I have found the nurses' role still not clearly delineated. In the sixties we did everything - now we often ponder what we do. However what is clear from all my research is that the nurse is often the assessor, co-coordinator of care, and the teacher and supporter, while providing bodily care whether physical or psychosocial. As one clinical nurse consultant said in one study - we are the lynch pins in the health team. One challenge for nurses is to work more in the health team rather than alongside; we are often criticised for working in teams but only our own team.

Today, as I work more with clinicians and higher degree students in nurses, I hope we can delineate our roles in the multidisciplinary team; work toward better patient care; have a workplace which is conducive to many models of employment; and a safe place for nurses to work.

Development of a questionnaire to assess health care students' hand hygiene knowledge, beliefs and practices

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KEY WORDS

hand-hygiene, student, knowledge, beliefs, questionnaire, Marlowe-Crowne

ABSTRACT

Objective

To determine the reliability and validity of a hand hygiene questionnaire (HHQ) developed to examine health care students' hand hygiene knowledge, beliefs and practices.

Design

Pilot testing of the HHQ

Setting

Undergraduate students of nursing undergoing university education

Subjects

The HHQ was administered to 14 student nurse volunteers in the final year of their undergraduate degree and to another 45 volunteers following revision.

Main outcome measures

Main outcomes measures were test-retest coefficients, Cronbach's alpha values and mean inter-item correlations of the scale items.

Results

The face validity of the HHQ was high. Cronbach's alpha values of 0.80, 0.74 and 0.77 were obtained for the Hand Hygiene Beliefs scale (HBS), the Hand Hygiene Practices Inventory (HHPI), and the Hand Hygiene Importance Scale (HIS) following removal of items with low item-to-total correlations or zero variance. The mean item-to-total correlations of the HBS, HHPI and IS were 0.37, 0.33, and 0.61 respectively. The two-week test-retest coefficients for each scale were 0.85, 0.79 and 0.89 respectively. Socially desirable responding was identified in participants' responses to the HBS using the 11-item short form of the Marlowe-Crowne Social Desirability scale.

Conclusions

The HHQ demonstrated adequate reliability and validity and should be further tested on a wider sample of health care students.

INTRODUCTION

While a great deal of research has been conducted into health care workers' adherence to hand hygiene (HH) guidelines, a search of the MEDLINE, CINAHL and Google Scholar databases using the terms HH or handwash or handwashing or hand decontamination, and student showed scant research on the HH knowledge, beliefs and practices of health care students (HCS).

LITERATURE REVIEW

Karaffa (1989) developed a Handwashing Practices Inventory (HPI) based on the Health Belief Model (HBM) to assess general university students' knowledge of, and beliefs about handwashing. Her sample included 123 allied health education students. The HPI examined students' handwashing practices (17 items), perceptions of the benefits (18 items) and barriers to handwashing (18 items), the risk of contracting infectious diseases (8 items) and the seriousness of those diseases (8 items). Students' perceptions of handwashing benefits, barriers and severity of infectious diseases were significant predictors of self-reported handwashing. The applicability of the study is limited because the questionnaire was only administered to a small sample of health students and did not assess the students' handwashing practices in the health care setting. The Health Belief Model was developed for use in health promotion and it focuses on how an individual's perceptions of risks and benefits can influence the likelihood of behaviour change to protect the individual's health. In the health care setting, it is possible that a range of other factors influence students' HH including modelling the behaviour of others and altruistic behaviour to protect patients.

Sangkard (1991) examined student nurses' infection control knowledge with a questionnaire that contained a nine-item handwashing component. Responses to the handwashing items were correct 68 - 71% of the time, however, the majority of questions were very simple true/false questions. The students perceived clinical teaching as the most effective way to learn about infection control, and

infection control knowledge increased significantly with increasing duration of clinical experience. The primary focus of this study was infection control knowledge in relation to HIV/AIDS infection. While this study offers some information on the handwashing knowledge of student nurses and the relationship between the teaching strategies and infection control knowledge the study did not examine whether the students' handwashing knowledge translated into better practices and more favourable beliefs about handwashing. This study was also completed prior to the introduction of alcohol-based handrubs.

In contrast to the findings of Sangkard (1991), Jenner and Watson (2000) found nursing students' attitudes toward HH deteriorated over time. No information was provided on students' HH knowledge or practices. Snow et al (2006) studied one group of nursing assistants with, and the other without, a previous history of medical employment or education. HH compliance improved over time for students without a previous medical background while those with a previous medical background performed HH significantly more frequently throughout the study. Students' HH compliance also improved when mentors performed HH. Students' self-reported mean HH compliance before and after various activities ranged from 80.4% - 95.3%. This study offers clues about the role of mentors in influencing the behaviour of students, however it is limited by a small sample (n=60); it was only conducted on students of one discipline; and did not address the effect of education, assessment, and knowledge on HH practices. Additionally, the data on compliance may be affected by observational bias (van de Mortel and Murgo 2006).

Several studies have examined aspects of medical students' HH behaviour and knowledge. Feather et al (2000) observed the handwashing behaviour of 187 medical students during their final clinical examination. Without a reminder, 8.5% of medical students washed their hands after patient examination while 18.3% handwashed when reminder notices were displayed. Other factors that influenced students' HH behaviour were not

examined. In a follow-up study, Hunt et al (2005) surveyed first year medical students to determine their HH attitudes after observing their behaviour during a clinical examination. Students substantially overestimated their compliance and reported that lack of time, insufficient sinks, and the perception that 'nobody else does it', were the most frequent barriers to HH. No attempt was made to examine the relationship between reported compliance and students' knowledge scores or their attitudes towards HH.

Mann and Wood (2006) examined the infection control knowledge of third year medical students using a semi-structured questionnaire which included a HH component. The mean HH knowledge score was 52.3%. Five percent of students reported receiving no instruction on HH and 58% did not know the correct indications for the use of alcohol-based hand gel. The studies conducted by Karaffa (1989), Sangkard (1991), and Mann and Wood (2006) all relied on self-report but did not use a means to detect socially desirable responding (van de Mortel 2008).

A comprehensive examination of the factors that influence the way HH knowledge and behaviour is learned and practiced across health disciplines is lacking. Thus a HH questionnaire (HHQ) was developed to examine health care students' (HCS) HH knowledge, beliefs and practices, and the influences of mode of HH education and assessment on those factors. The HHQ was designed to answer the following questions:

1. What knowledge do HCS have of the current HH guidelines and does knowledge influence beliefs and practices?
2. What is the self-reported HH practice of HCS?
3. What beliefs do HCS have about HH and do these beliefs influence practice?
4. Does the method or frequency of HH education and assessment influence HH knowledge, beliefs or practices?

The specific aim of this study was to determine the reliability and validity of the HHQ.

METHOD

Structure of the questionnaire

The HHQ contained five main sections:

- A demographics section that elicited information on age, gender, discipline and weeks of clinical practicum completed.
- A HH knowledge section that contained 15 multiple-choice questions based on the Centers for Disease Control (CDC) HH guidelines (Boyce and Pittet 2002).
- A teaching section that examined how students learned about HH during their course, how effective they felt the teaching strategies and resources were, and how frequently and in what manner their HH knowledge and skills were assessed. Students were also asked to assess the importance given to hand hygiene in the curriculum by their supervisors and in health-care facilities, on a five-point Likert scale named the Hand Hygiene Importance Scale (HIS).
- A 37-item HH Beliefs Scale (HBS) designed to determine students' HH beliefs on a 5-point Likert scale. The scale was developed using Social Cognitive Theory (SCT) (Bandura 1986) as a framework and contained four items modified from Karaffa (1989) and one developed by Larson et al (1997). While the HPI as a whole was originally developed using the HBM as a framework, these items focused on students' perceptions of barriers and rewards for handwashing, both of which are congruent with SCT.
- A 25-item HH Practices Inventory (HPI), which examined students' HH practices on a five-point Likert scale. Four statements in this section were from Larson et al (1997) and two were from Karaffa (1989).

In order to determine content validity, a panel of three infection control experts was asked to advise on the accuracy and comprehensiveness of the knowledge questions, relevance of the scale items, and readability of the questionnaire.

Theoretical framework of the questionnaire

Social Cognitive Theory (SCT) (Bandura 1989, 1986) was chosen as the framework for the Hand Hygiene Beliefs scale because it deals specifically with the process of learning behaviour and because it is considered the most comprehensive theory of human behaviour (Redding et al 2000; Bandura 1998). SCT explains how people acquire and maintain their behaviours and provides the basis for intervention strategies (Baranowski 1997). There is considerable overlap between SCT and the other health behaviour theories such as the Health Belief Model (HBM) (see Bandura 1998), but SCT measures additional constructs such as the effect of self-efficacy on behaviour change.

According to SCT, behaviour is influenced by rewards and punishments, by vicarious learning (which involves observing the behaviour of others and the consequences of that behaviour), and modelling other's behaviour. Reciprocal determinism is a key concept: personal factors such as cognition, affect, and biological events, interact with behaviour and environmental influences allowing each of these components to influence and be influenced by the other. According to Bandura (1989, 1986), variables that influence the process of learning behaviour include:

- Beliefs about the outcomes of the behaviour and the value of those outcomes. Do students believe that HH will prevent nosocomial infection and that this is a valuable outcome?
- Feelings of self-efficacy (confidence) about one's capacity to behave in a particular way. Do students believe they are capable of reminding a health professional to decontaminate their hands?
- Modelling others' behaviour. Modelling occurs more readily if the model is admired; hence junior staff often imitate the behaviour of senior staff (Lankford et al 2003; Muto et al 2000).
- Self-regulation of behaviour, ie when the person performs the behaviour in the absence of witnesses. People are more likely to perform

HH when someone is watching (Drankiewicz et al 2003; Pedersen et al 1986).

- Reinforcing factors such as positive or negative feedback.

The effect of habit was an additional construct included in the beliefs scale (Aarts et al 1997; Baranowski et al 1997).

Ethics

Ethics approval was obtained from the relevant Human Research Ethics Committee.

Setting and subjects

Preliminary testing occurred using a convenience sample of 14 Australian undergraduate nurses in the final year of their degree. Students were informed of the study aim, that participation was voluntary, and that their responses were anonymous. Volunteers were asked to comment on items they found hard to understand or redundant and make suggestions on how to improve the readability of the questionnaire in order to determine and improve the face validity of the questionnaire. Volunteers were requested to complete the scales again two weeks after completing the questionnaire, in order to calculate test-retest stability. Completed questionnaires were returned using a locked box in reception.

Following analysis of the data, the 11-item short form of the Marlowe-Crowne Social Desirability (SD) scale (Reynolds 1982) was added and the questionnaire administered to a further 45 student nurses to determine if socially desirable responding (SDR) was occurring.

Final year students were chosen because:

- they are more likely to have received most of their HH education,
- the duration of courses differs between disciplines and countries; using final year students allows the results to be standardised across courses of different durations.

Statistical analyses

Descriptive statistics were calculated for the scales using the program SPSS (11.0 for MacOSX; Chicago, Ill). Homogeneity of the scales was assessed using

Cronbach's alpha and item-to-total score correlations. Reliability coefficients of 0.7 or above and item-to-total correlations above 0.25 indicate acceptable internal consistency (Jackson and Furnham 2000; Beanland et al 1999). A Pearson's correlation was used to determine the test-retest coefficient (Jackson and Furnham 2000). A Pearson's correlation was also used to determine if SDR was occurring (Pallant 2005).

FINDINGS

The age of participants ranged from 20-51 years (mean 29.7 ± 1.3). Nine participants (15.3%) were male and 50 (84.7%) were female. The face validity of the questionnaire was high following modification of the questionnaire. The criteria used to modify the questionnaire are listed in table 1 (Rattray et al 2004).

Table 1: Criteria used to modify the questionnaire.

Criteria	Rationale	No. of items
Scale items with a low item to total correlation	Items with an item to total correlation of <0.25 can contribute to poor internal consistency (Jackson and Furnham 2000).	23 items removed
Scale items with zero variance	High endorsement of an item suggests poor discriminatory power	5 items removed
Clarity and relevance of items	Items were considered for removal if participants suggested they were difficult to understand or redundant	21 items removed
Items considered theoretically important	Items considered theoretically important retained despite meeting one of the above criteria for removal	10 items retained

The scales

The reliability coefficients for the HBS, the HHPI and HIS are reported in table 2. The mean scores for each item of the scales are shown in Appendix 1.

DISCUSSION

The internal consistency and test-retest stability of the final scales were satisfactory. The alpha and test-retest coefficients of the HHPI were similar to those of the original HPI which were 0.76 and 0.81 respectively (Karaffa 1989). The mean score on the HHPI indicated that students 'mostly' performed HH in the situations described in the scale. The results of

the HHPI are similar to the previous studies that have used versions of the HPI (Larson et al 1997; Karaffa 1989). The range of responses for the HBS and HIS were much wider with the mean score for the HBS, falling between 'not sure' and 'agree' and the mean score for the HIS falling in the 'agree' range.

A possible limitation of a self-report questionnaire is the reliability of participants' answers on items with a high social desirability value (van de Mortel 2008). Self-reported scores are susceptible to distortion due to self-deception or faking by participants on items that are linked to social approval (King and Bruner 2000).

Table 2: Reliability coefficients for the HBS, HHPI and IS

	HBS	HHPI	HIS
Cronbach's alpha (n=59)	0.80	0.74	0.77
Mean item-to-total correlation (n=59)	0.37	0.33	0.61
Two-week test-retest stability (n=14)	0.85	0.79	0.89
Range of scores (mean \pm sem) (n=59)	2.90-4.80 (3.88 \pm 0.06 sem)	3.69-5.00 (4.76 \pm 0.03)	1.00-5.00 (4.29 \pm 0.10)
Socially desirable responding (n=45)	Yes, moderate (r=0.33; p=0.01)	No (p=0.36)	No (p=0.90)

Various studies have examined the link between self-reported and observed HH practices with mixed results. For example, Tibballs (1996) found a substantial discrepancy between the self-reported and observed HH of medical staff in an intensive care unit, while O'Boyle (1998) found a moderate correlation between self-reported and observed HH practice in her study of critical care nurses. Larson et al (2004) found that overall self-reported HH frequency was not significantly different to observed frequency in their study, although some measures of HH differed significantly. Moret et al (2004) found self-reported HH practice was generally similar to observed practice in their comparison of the two methods. Some of the discrepancy between observed and self-reported behaviour may also be a function of bias in the observational method (van de Mortel and Murgo 2006).

One way to determine if SDR is occurring is to use a social desirability (SD) scale (Crowne and Marlowe 1960); participants answer true or false to a set of socially valued but improbable statements. The score on the scale can identify if data are contaminated by SDR. The HHQ did elicit SDR as there was a significant correlation between scores on the SD scale and scores on the HBS. Statistical methods are available to reduce the effect of the confounding variable on other variables (Pallant 2005).

The study was also limited by the small sample size and the fact that it was piloted on nursing students only.

CONCLUSIONS

The questionnaire demonstrated acceptable validity and reliability and may provide a means of better understanding the HH practices, beliefs and knowledge of health care students in order to inform curriculum design and adherence strategies. Any innovation that can improve health care professionals' HH practice has the potential to save money, lives and prevent suffering. Further testing on a larger sample size and a wider range of health care disciplines is needed. Statistical methods such as partial correlation should be used to control for

the influence of SDR when analysing data from the Hand Hygiene Beliefs scale.

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APPENDIX 1

Table 3: Mean scores on items of the Hand Hygiene Beliefs Scale

Statement	Mean score on item (sem)
I have a duty to act as a role model for other health care workers	4.40 (± 0.12)
When busy it is more important to complete my tasks than to perform hand hygiene [^]	4.36 (± 0.10)
Performing hand hygiene in the recommended situations can reduce patient mortality	4.45 (± 0.08)
Performing hand hygiene in the recommended situations can reduce medical costs associated with hospital-acquired infections	4.48 (± 0.08)
I can't always perform hand hygiene in recommended situations because my patient's needs come first [^]	3.83 (± 0.14)
Prevention of hospital-acquired infection is a valuable part of a health care worker's role	4.45 (± 0.14)
I follow the example of senior health care workers when deciding whether or not to perform hand hygiene [^]	3.48 (± 0.17)
I believe I have the power to change poor practices in the workplace	3.77 (± 0.10)
Failure to perform hand hygiene in the recommended situations can be considered negligence	4.44 (± 0.07)
Hand hygiene is a habit for me in my personal life	3.79 (± 0.19)
I am confident I can effectively apply my knowledge of hand hygiene to my clinical practice	4.19 (± 0.14)
It is an effort to remember to perform hand hygiene in the recommended situations [^]	3.77 (± 0.15)
I would feel uncomfortable reminding a health professional to handwash [^]	2.60 (± 0.13)
If I disagree with a guideline I look for research findings to guide my practice	3.23 (± 0.15)
Performing hand hygiene slows down building immunity to disease ^{*^}	3.33 (± 0.15)
Dirty sinks can be a reason for not washing hands ^{*^}	3.12 (± 0.14)
Lack of an acceptable soap product can be a reason for not cleansing hands ^{*^}	3.50 (± 0.15)
Performing hand hygiene after caring for a wound can protect from infections [#]	4.62 (± 0.08)
Cleansing hands after going to the toilet can reduce transmission of infectious disease [*]	3.84 (± 0.22)

Scale: 1=strongly disagree to 5= strongly agree; [^] indicates the item is reverse coded

^{*}modified from Karafta (1989); [#]from Larson et al (1997)

Table 4: Mean scores on items of the modified Hand Hygiene Practices Inventory

I cleanse my hands:	Mean score on item (sem)
After going to the toilet	4.85 (± 0.06)
Before caring for a wound [#]	4.95 (± 0.03)
After caring for a wound [#]	4.97 (± 0.02)
After touching potentially contaminated objects [#]	4.76 (± 0.06)
If they look or feel dirty [*]	4.73 (± 0.09)
After contact with blood or body fluids [*]	4.98 (± 0.02)
After inserting an invasive device	4.98 (± 0.02)
Before entering an isolation room	4.53 (± 0.01)
After physical contact with a patient	4.54 (± 0.09)
After exiting an isolation room	4.86 (± 0.08)
Before endotracheal suctioning	4.78 (± 0.10)
After contact with a patient's secretions [#]	4.93 (± 0.07)
Before patient contact	4.14 (± 0.14)
After removing gloves	4.67 (± 0.10)

Scale: 1=strongly disagree to 5= strongly agree; modified from ^{*}Karaffa (1989) and [#]Larson et al (1997)

Table 5: Mean scores on items of the Hand Hygiene Importance Scale

Statement	Mean score on item (sem)
Hand hygiene is considered an important part of the curriculum	4.51 (± 0.11)
The facilities in which I do clinical practicum emphasise the importance of hand hygiene	4.17 (± 0.12)
The importance of hand hygiene is emphasised by my clinical supervisors	4.20 (± 0.13)

Exploration of interaction and shared care arrangements of generalist community nurses and external nursing teams in a rural health setting

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KEY WORDS

Nursing, shared care, interaction, communication, care planning, case coordination

ABSTRACT

Objective

The purpose of this pilot study was to determine the understanding of nurses within a shared care model and the degree of interaction evident in their practice in the shared care nursing environment in a rural care setting.

Sharing of care between different nursing teams can allow for the improved use of minimal resources available in rural communities.

The objectives of the research were firstly, to identify the interactions of nursing teams in a shared care model and secondly, to determine how shared care is evident in their practice. The final objective was to draw attention to the importance of shared care models in rural health settings and to develop recommendations to support shared care models.

Design

A qualitative, non experimental, grounded theory descriptive study was used in this research.

Setting

Primary care

Subjects

The sample comprised the generalist community health team, which consisted of registered nurses with more than 5 years post registration experience in community health nursing and two external nursing teams, comprised of a palliative care team and an aged care team.

Main Outcome Measures

Identification of the nursing interactions and shared care practices in order to develop recommendations to foster and support shared care models in changing health structures.

Results

The study generated four themes: a lack of understanding of each teams' roles; difficulties in communication of information; the importance of setting shared goals in care planning; and the need for collaboration to ensure clarity in case coordination.

Conclusion

Results suggest that confusion around role, skills, communication, care planning and coordination of care within a shared care model are creating barriers to effective sharing of care. Co-location of services should enhance sharing of care. These results should facilitate the development of care approaches that maximise health outcomes and contribute to a better understanding of collaborative processes that can assist in the provision of health care in rural settings.

INTRODUCTION

Health care in New South Wales (NSW), Australia is at present in flux (Keleher 2003). Restructures, financial constraints and the limited availability of health professionals necessitate nursing and allied health staff innovatively working together to share the limited resources available (Keleher 2003). To achieve optimal and comprehensive patient care, services need to work collaboratively at all levels.

Services in rural areas are particularly in need of partnerships as fewer alternatives are available than exist in metropolitan areas. The trend toward earlier discharge from hospital and the move toward community based care, has flagged the need for creative partnerships in community services (Reutter and Ford 1998).

The benefits of shared care models are clearly documented (Sweeney and Kisely 2003; Hibberd 1998; Reutter and Ford 1998) with services evolving their systems to meet local needs. Research has indicated that barriers in interaction between teams blocks the sharing of care (Orton 1994). The existence of barriers within any of these themes has an impact on the ability of teams to provide effective shared care (Orton 1994). Evaluations of how nursing teams interact in a shared care rural environment have been limited. This research explored how nursing teams interacted in a shared care arrangement in a rural health care setting, examining their views and perceptions.

Literature Review

A literature review of the shared care concept indicated that there are many models of patient care and of multiple care services. Shared care models have been described in several different formats. Authors have looked at shared care from different viewpoints, but with a commonality of issues and determinants. For example, two such studies found that to enable shared care to occur effectively, organisations should have common aims and goals (Crawford and Price 2003; Hibberd 1998). Shared care models allow improved use of resources in rural areas, team members are able to support

and further enhance the expertise of other team members, and care is thus responsive to patients' changing needs (Sweeney and Kisely 2003). The literature informed an understanding that shared care needs to be structured. Without structure, care becomes complicated, with reduced patient follow-up and clouded outcomes. To achieve this, one overriding theme emerged from the literature, that of enhancing organisational structures (Sweeney and Kisely 2003; Crawford and Price 2003; Hibberd 1998). The organisational structures and the necessity for all team members to understand each organisation's purpose and their own role within the organisational structure are imperative in the shared care process.

Each model suggested that for collaborative processes to be in place, health professionals should understand organisational structures and team roles which assisted in interaction and management of actions (Sweeney and Kisely 2003; Crawford and Price 2003; Hibberd 1998). Misunderstandings occur when professionals cannot understand how other organisations operate. What each organisation, does, the capacity, the styles of working, responsible personnel, and individual and collective philosophies, are all significant. When health workers understand these things, they are then able to collaborate and form common goals, without conflict brought about through ignorance (Hibberd 1998). Organisational boundaries become less rigid, enabling teams to work within an integrated framework (Dion 2004; Sweeney and Kisely 2003; Crawford and Price 2003; Street and Blackford 2001; Hibberd 1998). Understanding organisational frameworks assists in the communication process (Dion 2004). Effective communication is imperative in a shared care model. Barriers to communication discourage collaboration and sharing of care (Sweeney and Kisely 2003).

Establishment of clear processes and frameworks for communication ensures that the shared care model achieves its aims. Each team member must assume responsibility for communication and interaction with other members. Interaction and communication between team members is a human

process and thus understanding the processes by which communication occurs, assists in the sharing of care.

Care planning within the shared care model is facilitated by the processes developed for communication. The ability to gain and share information and expertise allows planning of care to be multidimensional for the patient, and encourages optimal care (Yuen et al 2003). Themes within the literature recognised successful outcomes and focused care planning as being dependent on all team members (Hammer 2001).

Care coordination in a shared care model is best developed with collaboration, which is defined as the sharing of responsibilities, planning, interventions and information. All members of the teams provide input and participate in the coordination of patient care, ensuring shared goals are met. All members are responsible and accountable for the coordination of care. A significant part of the literature analysed revealed that outcomes regarding quality of care and effectiveness of interventions were the main concern of health professionals (Dion 2004; Keleher 2003; Hammer 2001). The causal relationship between collaboration and optimum outcomes is significant.

For any shared care model to be effective, the four themes: communication, understanding, coordination and planning are needed to ensure continuity of care and to establish and maintain the shared care model (Sweeney and Kisely 2003).

The existence of barriers within any of these themes has an impact on the ability of teams to provide effective shared care (Orton 1994). To more deeply understand collaboration and sharing of care, investigation of these external factors can identify barriers and assist in identifying strategies for improvement.

Each model reviewed had developed around the needs of each organisation and community. Investigation into interactions of staff is perhaps the key to understanding the strategies needed to ensure benefits to nurse and patient. Understanding

shared care models facilitates an understanding of the benefits of this form of collaboration. Improved strategies for shared care in the work environment would assist to optimise use of resources in the current health care system.

This study aimed to explore the interaction and shared care arrangements of generalist community nurses and external nursing teams in a rural health setting.

METHOD

A non experimental, grounded theory descriptive study design was used in this research. The disadvantage of such a study design is that it decreases control over the variables and the establishment of the cause-effect relationship between those variables is difficult to identify (Polit and Hungler 1993). In this research however, where the primary focus is on human interactions in a naturalistic setting, this type of design has been shown to be effective (Lomberg and Kirkewold 2003). The aim of the study was to explore the interaction and shared care arrangements of generalist community nurses and external nursing teams in a rural health setting.

Ethics

Ethics approval was sought and obtained from Greater Southern Area Health Service Human Research Ethics Committee (HREC) prior to commencement of the pilot study. Following HREC protocols, informed written consent was obtained from participants. Participants were assured if direct quoting was used in published work that anonymity would be maintained.

Comprehensive information on the study was provided to teams at all team meetings, and team members asked to participate.

Objectives

The objectives of the research were firstly, to identify the interactions of nursing teams in a shared care model and secondly, to determine how shared care is evident in their practice and to disseminate these findings to members of the health care teams. The

final objective was to draw attention to the importance of shared care models in rural health settings and to develop recommendations to support shared care models.

The pilot study endeavoured to obtain accurate accounts of the perceptions and experiences of the nursing teams within the shared care model. Based on examination of the literature a 10 point questionnaire was developed. Respondents were asked to indicate their understanding of each other's role, their understanding of the current shared care arrangement and how they provide input into care planning.

The items included: the communication techniques the teams used, strategies for case coordination they perceived as important, and what strategies they used in their practice, together with their perspective on the aims and objectives of their teams. A Likert Scale format was used. The questions included are listed below (see table 1).

Table 1: Sample questionnaire

- Do you know and understand the skills and roles of all members of the shared care teams: generalist community health team, palliative care team, aged care team?
 - What do you perceive as effective practice in shared care?
 - Do you believe the current shared care arrangement you are currently involved in with generalist community health team, palliative care team, aged care team ensures effective patient care?
 - Is input into care planning attended by all members of the health care teams?
 - What input do you have into the care planning of patient care within the current shared care with the generalist community health team, palliative care team, aged care team?
 - What communication techniques are used in the shared care arrangements you are involved in?
 - Is input into case coordination attended by all members of the teams?
 - What strategies are used in case coordination in the shared care?
- Model
- Who ensures effective care coordination occurs for your client?
 - What are the aims and objectives of your team in client care?

Sample

The sampling for the study was purposive and comprised registered nurses from the generalist community health team and two other external nursing teams; a palliative care team and an aged care team, both of which work in the Greater Southern Area Health Service, NSW, Australia. The teams operate from separate sites and have separate management teams.

Each team member brings different skill and expertise to their teams. The teams included: three team leaders/managers, eleven registered nurses with more than five years post registration experience in rural community health nursing and two allied health members. Two members from each team participated in the survey.

As previously described, participation was voluntary and anonymity was guaranteed. A questionnaire was sent to each participant who was given one month to complete it and return it to the researcher.

FINDINGS

A response rate of 100% was achieved. This meant that two members from each team (generalist, palliative, aged care) participated in the study. All respondents were included in the analysis. Data from the 10 point questionnaire was placed in a descriptive matrix, used to elicit characteristics in the comments of the nursing teams. Using a continual comparative analysis, the data was rechecked for accuracy and emerging themes highlighted (table 2).

Four recurring themes became evident. These were:

Care Planning

Answer from respondents showed 50% agreement and 50% disagreement about whether they were providing input into care plans. Comments indicated care plans were developed by each team in isolation, without consultation with other teams, or with only minimal consultation.

Case Coordination

All respondents indicated they had a firm understanding of the strategies needed to assist

case coordination, but that a lack of utilisation of these strategies existed. Fifty per cent of respondents agreed they provided input into case coordination, while 15% acknowledged they provided no input; and 33% were undecided as to whether any input was provided by them or not. Sixty six per cent of respondents indicated that management played the primary role in case coordination. Eighty per cent of respondents stated that key workers/case managers coordinated care. All respondents however, saw this as their role and several indicated concerns as to how key worker/case managers were differentiated. One respondent stated case coordination was: “*an all staff role*”.

Role of Teams

Although the questionnaire showed each team had an appreciation of each member’s role, knowledge of how each team worked was varied. Fifty per cent of respondents had a clear and comprehensive understanding of each team’s role, while the other 50% had very different and diverse understanding of each others roles. For example, knowledge of the work and responsibilities of specialty teams, such as an understanding of the palliative care role around symptom management, control strategies and focus on spirituality, was particularly varied. Fifty per cent of respondents referred to the location of teams on different sites as being a barrier to sharing. Being located on the same site increased the ability to share information with other teams. A lack of understanding of other’s roles was cited as: “*who does what*”, with another respondent concerned with: “*the lack of understanding and knowledge of other teams*”.

Communication

All respondents described communication techniques used as verbal, written and through team meetings. Only one respondent however found these techniques concise, informative and accurate. This question gave rise to many comments, although comments had not been requested in this section.

For example: “*communication very brief*”, “*not always comprehensive*”, “*systems are available but not well used*”. An enduring theme was a lack of processes for communication and difficulty in achieving feedback

from other teams. One respondent commented on the problems that ensue with part time staffing for continuity of care: “*part time work makes it difficult to maintain communication networks and obtain current feedback*”.

Table 2: Examples of issues identified that need further study

Care Planning
<ul style="list-style-type: none"> • collaboration needed to ensure positive client outcomes • shared input into case discussion, assessment, review and referral
Case Coordination
<ul style="list-style-type: none"> • to enhance client access to services across organisational boundaries • allocation of key workers/case managers • need for regular cross team meetings • client primary focus in decision making to be paramount
Role of Teams
<ul style="list-style-type: none"> • awareness of specialty roles • understanding of each teams roles and skills • location of teams • Communication • need for processes to assist communication • accurate, concise and informative communication needed

DISCUSSION

The study provided a valuable perspective on sharing care in a rural health setting. The shared care model is one in which health provider’s work together with common goals and objectives relating to client care. Shared care applies when the responsibility for the care of the patient is shared between individuals or teams who are part of separate organisations or where substantial organisational boundaries exist (Pritchard and Hughes 1995).

Sample participation was kept to a small number. Previous research showed accurate data could be derived from small participant samples (McCann and Baker 2003). Data collected from this small participant group enabled conceptualising of the data. Further research will allow for refining and further detail. A criticism of this method may be that more extensive initial information may have been

promoted by using focus groups however this may have created a sensitivity, discouraging staff from fully expressing their comments.

The study provided informative results. The themes discovered reinforce observations found in the literature. Four themes emerged as important and warrant further investigation. Firstly, care planning was viewed by most of the participants as occurring in isolation and current plans remain role and specialty specific.

Secondly, interaction among teams and transferring of information was limited and lacked accurate, concise and informative data. Results indicate that nursing members understand the need for shared goals and the need to use 'face to face' interaction to facilitate communication. Systems to assist consultation on care planning and understanding of shared goals would assist client care. Clear processes and systems for care planning would lead to improved mechanisms for case coordination.

Thirdly, the need to implement guidelines on key workers/case managers was obvious in the survey. Each team perceived themselves as key workers or case managers. This creates barriers to sharing of information, increasing the risk of overlapping of services. As Hammer (2001) found, a lack of identification of a key worker or case manager may encourage a model where referral is made to other services without communication or shared consultation regarding patient goals and desired outcomes. The literature suggests that care without some form of coordination and management encourages fragmentation of services provided to clients. The results of this study indicate that a common denominator is the need for key workers/case managers to be clearly identified, thus assisting health care teams to maintain continuity. To allow case coordination and care planning to be effective and seamless, an understanding of all team roles has been highlighted as necessary.

This research found that understanding of each others skills and role enables team members to use their skill and knowledge and facilitates improved

cooperation and collaboration between teams, assisting in decreasing work overlap and reducing potential for confusion and conflicting advice. This leads to the common ambition of achievable, identified goals for the client. By drawing on these skills and roles, a stronger team emerges (Headland et al 2000). Teams that have this knowledge are better equipped to form successful partnerships. Further investigation is thus indicated into communication processes currently in place and their use in assisting current practice. This may lead to the design of new systems to improve communication both within and between teams.

In conclusion, the exploration of the interaction of nursing teams in a shared care environment has allowed nurses to reflect on practice and respond in constructive ways to meet the challenges that have been exposed.

RECOMMENDATIONS

Rural health nursing has experienced many changes in recent times. The need to work innovatively to achieve outcomes for patients has seen the generation of many models of care. This research has focused on a shared care model within a rural community. A shared care model allows improved utilisation of resources in rural areas; team members are able to support and further the expertise of other team members. It allows care to be responsive to the patient and communities changing needs.

Health professionals need to consider establishing and implementing the following recommendations for future shared care models:

- Clear education of staff on each organisation's function and objectives.
- Sound communication frameworks and processes to negate barriers to communication and encourage collaboration of services.
- Enhanced care planning skills through education to enable information and expertise sharing and to facilitate multidimensional patient care planning, thereby encouraging optimal care. Care coordination should be a primary focus

in the shared care model. All members of the teams should be encouraged to provide input and participate in the coordination of patient care, ensuring the shared goals are met.

- The co-location of services may increase the ability nursing teams to share information with other teams, thereby neutralising barriers.

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Comorbid illness affects health-related quality of life after coronary artery bypass graft surgery

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KEY WORDS

Cardiac surgery, SF-36, comorbid illness, quality of life, self report

ABSTRACT

Objective

The purpose of this study was primarily to examine patients' health related quality of life (HRQoL) and secondarily to examine the effect of comorbid illness on HRQoL five years after coronary artery bypass graft surgery (CABGS).

Design

A prospective study using the Short-Form 36 health survey (SF-36) was performed.

Setting

The study was performed at a central London hospital, United Kingdom.

Subjects

From a previous study with 162 patients enrolled, one hundred and twenty-eight (79%) agreed to participate in a follow-up study five years after cardiac surgery by either a face-to-face or postal method.

Intervention

Participants were asked to complete questionnaires about their HRQoL, current illnesses and medication five years after CABGS.

Main outcome measures

Physical and mental HRQoL was recorded using a self report and the effect that comorbid illness has on HRQoL five years post CABGS was determined.

Results

Fifty five percent of the sample reported concomitant illness at the time of follow-up and lower scores were observed in the physical domains of the SF-36 reflecting poorer HRQoL. The domains of physical functioning, physical role limitations, social functioning and bodily pain and the summary physical score were significantly lower in those with comorbid illness ($p < 0.001$). Significantly higher rates of hospitalisation following CABGS were also noted. However no significant differences were observed in mental HRQoL ($p = 0.593$) compared to those with no comorbid illness.

Conclusion

The presence of comorbid illness impacts significantly on physical HRQoL five years after CABGS but no such effect is noted in mental wellbeing. From a nursing perspective, the importance of comorbid illness should be taken into account when planning physical activities after CABGS, when educating patients about the benefits of CABGS and when setting realistic expectations after surgery.

INTRODUCTION

Coronary artery disease (CAD) is a major cause of mortality and morbidity in the adult population in Australia (Australian Institute of Health and Welfare 2005). The main symptoms associated with CAD are angina and dyspnoea leading to decreased physical functioning and physical activity. CAD can also lead to myocardial infarction (MI) damaging the myocardium and potentially causing heart failure. The risk factors for CAD are well known and include hypertension, diabetes, raised cholesterol levels, obesity and smoking. In the USA, a report identified that 90% of CAD patients have prior exposure to at least one of these major risk factors (Greenland et al 2003). Although medications and lifestyle modifications can reduce the risk of CAD, many individuals still require coronary artery bypass graft surgery (CABGS).

CABGS is performed to re-vascularise the myocardium, reduce associated symptoms and prevent further MIs. In 2004, 427,000 CABGS were performed in the USA (American Heart Association 2007), while in the UK in 2003, a total of 29,000 CABGS were performed (Allender et al 2007). The focus of CABGS research has shifted from investigating mortality and morbidity to examining health related quality of life (HRQoL) focusing on the patient's subjective perception of their physical and mental health. One commonly used questionnaire to examine HRQoL is the Short-Form 36 health survey (SF-36) (Ware et al 1994) which examines physical and mental health.

HRQoL and CABGS

Although there are many HRQoL questionnaires available, the SF-36 has been used extensively in the cardiac population (Lindsay et al 2000; Rumsfeld et al 1999). The primary reason for CABGS is to relieve angina and breathless symptoms. Research has demonstrated the benefits of CABGS with Lindsay et al (2000) reporting improvements in all SF-36 scores from the pre-operative level when taken one year after CABGS ($p < 0.001$). However the authors also noted lower scores one year post CABGS (reflecting poorer HRQoL) in certain patients (diabetics, smokers, those having surgery at a younger age, higher socio-economic deprivation and drinking excess alcohol).

Specifically examining angina and breathless symptoms, Sjoland et al (1996) showed those with the poorest exercise capacity pre-operatively benefited the most from surgery with patients able to exercise without dyspnoea symptoms post CABGS. HRQoL has been examined five years post CABGS by Caine et al (1999) who reported chest pain symptoms in 40% of patients with 50% complaining of dyspnoea. Herlitz et al (2000) noted improvements in physical activity and a reduction of chest pain and dyspnoea symptoms, but also a significant association between breathless symptoms and physical activities such as walking and dressing ($p < 0.0001$). However neither of these follow-up studies specifically examined the issue of comorbid illness and its effect on physical and mental HRQoL.

HRQoL and chronic conditions

HRQoL has also been investigated in people with chronic illness (Brown et al 1999; Pearson et al 1999; Stewart et al 1989). Chronic disease markedly reduces HRQoL in those with chronic conditions especially in physical functioning, physical role, social functioning, mental health, general health perceptions and bodily pain. The SF-36 has also been cited as useful in predicting unplanned hospital admission in people with chronic illness (Pearson et al 1999) with both Brazier et al (1992) and Jenkinson et al (1997) reporting lower scores in individuals with longstanding illness compared to those with no illness ($p < 0.001$).

Chronic illness is common in people with CAD with a significant proportion diagnosed with hypertension, hypercholestraemia and diabetes, which may be being treated sub-optimally or the person may not adhere to their medication (Vasan et al 2005). CABGS only re-vascularises the identified occluded arteries and patients need to continue medication such as aspirin and lipid-lowering drugs after CABGS. Therefore it can be said that CAD after CABGS can be seen as a chronic condition which requires monitoring and treatment. One survey of 9,298 adults in the UK identified the functional limitation in long standing illness and its effect on HRQoL (Netuveli et al 2005). The authors reported that long standing illness resulted in poorer functional HRQoL which

was four times greater in older people. A Canadian study of 22,432 people reported reduced physical activity in people with chronic conditions which can lead to further problems such as mobility limitations and pain (Sawatzky et al 2007). These studies highlight the negative effects of chronic disease on physical functioning and on HRQoL. From a nursing perspective, one of the important roles for nurses is educating and advising patients post CABGS (in particular in relation to undertaking regular physical activity). The presence of chronic disease needs to be taken into consideration when recommending physical activities although there is little in the literature about this.

Although the negative effect of chronic disease on physical HRQoL has been reported, similar declines in psychological wellbeing are not observed. Singer et al (1999) showed that with advanced age where there is a decline in physical functioning in people with chronic disease, no psychological decline is evident. The researchers concluded there is a process of psychological adjustment to physical health problems associated with ageing. This result has been demonstrated by other authors (Pit et al 1996). A study by Goldberg et al (2001) found that perceived health status was related closely to self reported diseases in people who perceived themselves to be in poor health and who had comorbid illness which confirmed their health status. Therefore it would seem worthwhile to examine self reported illness and CABGS. Specifically relating to long term physical and mental HRQoL in CABGS patients, no research examining the impact of comorbid illness after CABGS was identified.

The purpose of this study was primarily to examine HRQoL five years post CABGS and a secondary aim to examine the effect of comorbid illness on HRQoL.

METHODS

Participants

All participants were admitted to a hospital in London, UK for their elective bypass surgery and were subjects in a randomised control trial of the efficacy of a neuroprotective drug. The inclusion

criteria were patients undergoing elective CABGS aged between 18 and 75 years. Those who had a history of neurological or psychiatric conditions, previous drug or alcohol abuse, and those undergoing emergency CABGS were excluded from the study. The hospital's Ethics Review Committee gave approval for the follow-up study.

Participants were asked to include the impact of all illnesses and diseases on their HRQoL five years post CABGS. Those who had other illnesses treated successfully after CABGS but were well at the time of assessment were categorised as 'no reported comorbid illness'. The presence of reported comorbid illness was defined as suffering symptoms, taking prescribed medication, or being given a medical diagnosis by a doctor at the time of assessment. Medical records were not accessed at the five year follow-up and patients' reports on their health not corroborated with any medical data. Participants' were asked about the start or return of angina after CABGS and interim data: MI incidence, the need for cardiac procedures (such as angiography) and hospitalisation. Interim data refers to events that took place between CABGS and the time of the follow-up visit (this referred to any time from their operation to the follow-up appointment).

Instruments

The SF-36 consists of 36 questions, is easy to administer and has sound psychometric qualities (Ware et al 1988). The questionnaire examines HRQoL relative to physical health (physical functioning, physical role limitations, bodily pain, energy and general health perceptions) and emotional health (mental health, social functioning and emotional role limitations). The role limitations allow both physical and mental health problems to be evaluated. The physical and mental summary score measures (PCS and MCS respectively) are generated with the aim of reducing the number of statistical comparisons without the loss of information whilst reflecting both physical and mental health. The SF-36 has been adapted for use in the UK population (Jenkinson et al 1997). The scores are rated from zero to 100. One hundred represents optimal health with no

physical or emotional health limitations and zero represents poor physical and mental health. In the study, the patients used the adapted UK standard SF-36 version 2 (Jenkinson et al 1999). Missing scores were estimated if more than half of the items within a scale were completed as instructed in the user's manual (Ware et al 1988).

Angina and breathless symptoms were clinically assessed using the Canadian Cardiovascular Society score (Campeau 1976) and the New York Heart Association Classification (the Criteria Committee for the New York Heart Association 1974) respectively.

Procedure

The follow-up study was carried out five years after surgery and all 162 patients were invited by letter to return to the hospital to examine HRQoL five years after CABGS. The information sheet outlined anonymity and confidentiality of patient information and the use of data. Patients who attended the hospital face-to-face visit completed questionnaires in a quiet room. Postal surveys were sent out with a covering letter, including details of how to contact the researcher in case of difficulties to people unable or unwilling to attend the hospital. Participants were asked to telephone if they had any queries or experienced difficulty in completing the questionnaires and to return the completed questionnaires in the enclosed stamped addressed envelope. Those patients are identified as 'postal' patients. Those who declined the invitation were not contacted again. Data collected included demographic data, symptoms, previous medical history, medication and questions about hospitalisation since the time of CABGS. The methodology has previously been published (Lee 2008a). Data were stored on a password protected computer and only researchers had access to the data.

Statistical analysis

The SPSS 12.0® statistical package was used for data entry and analysis within the managed PC system. Continuous data were analysed using independent t-tests; chi-squared analysis was used for categorical data; and where there were less than five in a group, Fisher's exact test was used.

FINDINGS

One hundred and sixty-two patients were recruited at the time of surgery originally. From this cohort, information was obtained five years later on 156 patients, a trace rate of 96.3% with no trace on six patients. One hundred and twenty-eight (that is, 79% of the original sample) participated in the five year follow-up study with the reminder not participating: eighteen failing to attend appointments, four patients declining to participate in the five year follow-up and six patients who had died from the time of surgery to the time of follow-up.

Table 1: Study participation of patients five years after coronary artery bypass graft surgery

Classification	n=162	Percent (%)
Followed-up	128	79.0%
Failed to turn up for appointment	18	11.1%
Declined	4	2.5%
Died	6	3.7%
No Trace	6	3.7%
Total	162	100.0%

One hundred and twenty-eight patients (79%) agreed to participate in the follow-up study. Some of those unable to attend a hospital visit agreed to participate using a posted questionnaire. One hundred and nine patients were interviewed (face-to-face) and nineteen completed postal questionnaires. Of the 126 assessed patients, 55% (n=70) reported comorbid illnesses at the time of their follow-up compared to 45% (n=56) with no reported comorbid illness at the time of follow-up. Examining pre-operative characteristics, no differences were observed in pre-operative MI incidence ($p=0.373$), angina scores ($p=0.509$) or breathless symptoms ($p=0.655$). Similar numbers of grafts were undertaken peri-operatively in both groups with 74.3% of patients with reported comorbid illness undergoing three bypass grafts compared to 69.6% of those with no reported comorbid illness.

With post-operative characteristics, comparing those with no reported comorbid illness and those with reported comorbid illness, no statistical differences were observed in interim data (ie from the time of

CABGS to time of follow-up) including MIs ($p=0.067$) or angiography post CABGS ($p=0.183$). However significant symptoms were noted in the reported comorbid patients five years post-operatively in angina ($p<0.001$) and breathlessness symptoms ($p<0.05$) and increased rates of interim hospitalisation ($p<0.001$).

The International Classification of Diseases was used to classify the presence of other illnesses, disorders and diseases as reported by the patient at the time of assessment. Fifty six patients had no comorbid illnesses at the time of assessment (45%). The majority of those with reported comorbid illness

reported endocrine or metabolic disorders (31.7%) such as diabetes mellitus and hypothyroidism. A further eleven patients (8.7%) had musculoskeletal disease (the primary diagnosis being osteoarthritis). Statistically, no difference was detected in the numbers in each group ($\chi^2=1.56$, $df=1$, $p=0.212$).

Comparing the SF-36 results demonstrated significant differences at the time of follow-up. Mean scores of all eight domains were higher (reflecting a better HRQoL) in those with no reported comorbid illness compared to those with comorbid illness as outlined in table 2.

Table 2: SF-36 of those with no reported comorbid illness (n=56) and those with reported comorbid illness at the time of follow-up (n=70)

SF-36 domains	No reported comorbid illness	Reported comorbid illness	t (independent)	p value (2 tailed)
Physical functioning	48.65 (10.65)	38.77 (15.97)	4.23	<0.001
Physical role	51.01 (8.26)	45.15 (14.23)	2.86	0.005
Emotional role	52.19 (8.23)	49.08 (11.64)	1.76	0.082
Mental health	54.69 (9.49)	52.95 (10.65)	0.96	0.341
Social functioning	47.73 (7.51)	41.05 (13.54)	3.49	<.001
Vitality/Energy	52.69 (8.84)	48.92 (12.38)	1.99	0.048
Bodily pain	49.69 (10.52)	44.10 (11.00)	2.89	0.005
General health perceptions	51.14 (9.95)	45.43 (14.28)	2.62	0.010
PCS	48.35 (9.44)	39.90 (13.04)	4.17	<0.001
MCS	53.54 (7.83)	52.68 (9.66)	0.547	0.593

Patients with a comorbid illness had lower scores in four domains: physical functioning, physical role, social functioning and bodily pain. The PCS for those with concomitant illness was significantly lower than those without illness ($p<0.001$). There was no significant difference in MCS scores ($p=0.0593$).

DISCUSSION

Fifty five percent of the sample reported concomitant illness (mainly endocrine and metabolic disorders) at the time of follow-up and lower scores were observed in physical domains of the SF-36 (physical functioning, physical role, social functioning and bodily pain) reflecting significantly poorer HRQoL ($p<.001$). The PCS was significantly lower in those with comorbid

illness (PCS mean 39.9) compared to those with no illness (PCS mean 48.4). Significantly higher rates of interim hospitalisation (i.e. from the time of their operation to the five year follow-up visit) were also noted. However, no significant differences were observed in their mental HRQoL ($p=.593$) compared to those with no comorbid illness.

The findings support the view that comorbid illness has a negative effect on physical HRQoL in people who have undergone CABGS in this study and supports previous studies with MI patients and other illnesses (Brown et al 1999; Brazier et al 1992; Stewart et al 1989) and also in unplanned hospital admission (Pearson et al 1999). Although improvements in SF-36 scores have been reported previously, this was

only one year after surgery and those with diabetes did not demonstrate the same benefits (Lindsay et al 2000).

The lower PCS scores indicate the effect of comorbid illness on physical HRQoL with functional problems. Similar results were reported by Ware (1985) and Jenkinson et al (1997). This is evident in the five-year follow-up with distinct differences in physical scores reflecting these physical limitations due to the presence of comorbid illness (Brazier et al 1992; Stewart et al 1989). There was little doubt that the presence of physical illness had a significant effect on patient functionality and HRQoL in this study. As highlighted by Netuveli et al (2005), there can be a fourfold increase in functional limitation in those with chronic conditions and given these findings, it would seem pertinent to recognise the negative effect of chronic illness on HRQoL.

Relating specifically to CAD symptoms, the patients with comorbid illness also had substantially more symptoms (angina and breathlessness) and a higher rate of pre- and post-operative MIs. Deterioration in functioning as seen with increased symptoms as decline in graft patency occurred (Caine et al 1999). A strong association was reported by Caine and colleagues between the presence of symptoms and restrictions in activities both socially and at home ($p < 0.01$). These results were also seen with breathless symptoms leading to a decrease in physical activities (Herlitz et al 2000). These results five years after CABGS are in keeping with Sjoland et al's (1996) findings and emphasise the clinical significance of breathlessness and its effect in quality of life.

The incidence of hospitalisation over the five year period was also examined. Interim hospitalisation was taken as an indicator of ill-health from CHD or other conditions. Other five year follow-up studies in the literature have offered no data on hospitalisation post CABGS (Herlitz et al 2000; Caine et al 1999). A comparison between pre-operative medications and medications five years later was not performed as many pre-operative medications are for the relief of angina symptoms and comparing medications was seen as having little benefit.

The MCS scores were not significantly different among those patients with comorbid illnesses compared to those with no comorbid illness five years after CABGS. This finding suggests that the patients made psychological adjustments to comorbid illnesses, which has been seen in other studies (Singer et al 1999; Pit et al 1996). Another explanation is that no change in mental health occurs in the presence of illness. Such a process could explain the lack of change in mental health, despite decline in physical functioning in older subjects with chronic disease. Although these physical problems resulted in physical limitations, a corresponding decrease in emotional and mental limitations did not occur. The adjustment appears quite strong; hence, as the data indicated, mental health remained stable.

This study found that the majority of patients perceive themselves to have good HRQoL five years post CABGS, however the presence of comorbid illness has a negative effect on physical HRQoL. From a clinical perspective, clinical objective findings can be examined by health care professionals with the patient's personal subjective experience to gain an understanding of their HRQoL. In doing so, the possibility of improving patient care is enhanced. This study has demonstrated clearly the value of this approach for patients undergoing CABGS and acknowledging the presence of comorbid illness and its effect on physical HRQoL. Potentially this information can be used when advising patients on physical activity after CABGS. As alluded to by Sawatzky et al (2007), people with chronic illness tend to participate in less physical activity which in turn can exacerbate their physical HRQoL and increase problems such as immobility and pain. The challenge would be to balance chronic illness symptoms and maximise the benefits of CABGS. The presence of comorbid illness and its effects on physical health needs to be considered when planning cardiac rehabilitation programs and also when giving advice to patients about undertaking physical activities. Often patients are told to undertake daily walks but if there are problems with osteoarthritis for example, patients may be unable to perform their exercise so alternative physical

activities could be recommended such as swimming which is non weight bearing. Nurses cannot look at CABGS in isolation but attempt to encompass other health issues when planning patient care.

Limitations

The study had some limitations. Firstly, the study depended on patients' self reports and data was not corroborated with their medical history or their general practitioners. However to overcome this limitation, the researchers examined the spouses' perceptions also on the patients' HRQoL and this has been reported elsewhere (Lee 2008b). Differences between the groups in their results using two administration methods could be anticipated; however this was not seen (Lee 2008a).

CONCLUSION

CAD is a progressive condition and while CABGS seeks to relieve symptoms, it is not curative. The importance of monitoring and managing other comorbid conditions is essential post CABGS to maximise physical HRQoL. This study revealed problems in physical health five years post CABGS and demonstrated that some patients have physical health problems. The presence of comorbid illness affects HRQoL and needs to be considered when assessing patients and planning physical activities post CABGS.

RECOMMENDATION

Coronary artery disease is a progressive condition and many people presenting for surgery have other comorbidities. These other health problems should be considered when educating patients prior to discharge. The importance of monitoring and managing other comorbid conditions is essential post CABGS to maximise physical HRQoL (especially when giving advice regarding exercise in cardiac rehabilitation programs). The benefits of CABGS need to be balanced with other health problems and realistic expectations set in terms of recovery and physical activity levels.

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Cardiac patients' knowledge and use of sublingual glyceryl trinitrate (SLGTN)

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KEY WORDS

Sublingual glyceryl trinitrate, medication
self-administration, knowledge, angina, chest pain

ABSTRACT

Objective

This study examined cardiac patients' knowledge and use of sublingual glyceryl trinitrate.

Design

A non-experimental, retrospective descriptive design with a convenience sampling strategy was used.

Setting and Subjects

Participants were cardiac in-patients who were prescribed sublingual glyceryl trinitrate (SLGTN) at the study hospital.

Main outcome measure(s)

Participants' knowledge and use of SLGTN was assessed using the Sublingual Nitroglycerin Interview Schedule (SNIS) which is a valid and reliable tool.

Results

Fifty-two in-patients from a general cardiac ward or coronary care unit were approached. A total of 41 (87.2%) participants were enrolled and all completed the survey. Participants' mean Knowledge score regarding SLGTN was 3.98 (SD=1.21), and the mean Use score was 3.68 (SD=1.12). Approximately one quarter of participants (24.4%) knew using SLGTN to prevent chest pain was an appropriate use for the drug. Males were significantly more likely to incorrectly transport their SLGTN than the females in the study ($t=-5.316$, $df = 21.8$, $p<0.000$).

Conclusions

Findings indicate that patients' have limited knowledge of and do not always appropriately use SLGTN, particularly in terms of the way men transport the medication. Therefore there is a need to develop and implement educational strategies to facilitate greater self-management of angina.

INTRODUCTION

Coronary Heart Disease (CHD), also known as coronary artery disease or ischaemic heart disease is the most common heart disease in Australia (AIHW 2004). In 2003-2004, cardiovascular disease was the principal diagnosis for hospitalisation in Australia and more than one-third were the result of CHD (ABS 2006). Patients with CHD are at increased risk of premature death, myocardial infarction and other vascular events (McIntosh 2004).

Angina is a common symptom of CHD and is self-managed on a day to day basis (Liu et al 2006) with sublingual glyceryl trinitrate (SLGTN), a standard treatment for angina pain control (Quinn et al 2002). It is therefore essential that people who experience angina pain have a good knowledge of SLGTN to promote their autonomy and self-care and to decrease complications. Weetch (2003) found patients hospitalised with angina wanted to know more about its causes, treatment, medication and the effect angina had on daily activities. This need was universal across studies from the United Kingdom and the United States of America and more importantly, studies found that participants did not have enough knowledge of SLGTN for safe and appropriate self-administration (McGovern et al 2001; Kimble and Kunik 2000; Ingram and Love 1999). No Australian study has examined the level of patient's knowledge or use of SLGTN specifically. Fernandez et al (2007) however in an Australian study looking at long-term adherence to medications following percutaneous coronary intervention found that although the use of nitro-glycerine medication for angina was minimal, many participants' knowledge of the correct storage for this medication was poor.

AIM

The purpose of this study was to examine cardiac patient's knowledge and use of their prescribed SLGTN and to identify patient characteristics which influence the level of knowledge and use. The two questions were:

1. What are patient's level of knowledge and use regarding SLGTN?

2. Which patient characteristics influence the level of knowledge and use of SLGTN?

METHOD

The study used a non-experimental, descriptive design.

Sample and setting

Convenience sampling was used. The target participant group included cardiac in-patients who were prescribed SLGTN (tablets or sprays) at the study hospital. The inclusion criteria included: Patients who: were prescribed SLGTN (tablets or sprays); aged over 18 years; and able to cognitively understand and complete the survey (as assessed by the registered nurse in charge of the wards). Participants were excluded if they: were in the terminal phase of their illness; were experiencing pain; were non-English speakers; or were prescribed buccal glyceryl trinitrate (GTN). Recruitment for the study was undertaken within two cardiac wards of a small public metropolitan teaching hospital in Brisbane, Queensland, Australia. The hospital has a broad range of in and out-patient medical and surgical services and intensive care and coronary care units.

Data Collection

Data collection occurred for one month during the first half of 2006. The registered nurse in charge of the wards introduced the study details to identified potential participants meeting inclusion criteria prior to introducing the researcher. Following informed consent, the researcher asked each participant to complete the 20 to 30 minute survey.

Instrument

The Sublingual Nitroglycerin Interview Schedule (SNIS), which was developed by Kimble and Kunik (2000), was used for this study. Content and face validity of the instrument have been established (Kimble and Kunik 2000). The tool required modifications for this study with 11 questions deleted as these focused specifically on the patient's last episode of pain which was not a focus for this study. The modified tool was piloted with two individuals similar to the target participant group to ensure

appropriateness of the wording and content for an Australian setting. No changes needed to be made to the instrument.

The Knowledge subscale includes seven areas (see table 2). Each question within this subscale asked for a yes=1 or no=0 response, with a 'yes' response indicating a correct response. As such, the possible range of scores on the Knowledge subscale is zero to seven. The Use subscale includes five areas (see table 3) and was also scored with yes=1 as the correct response. The possible range of scores on the Use subscale is zero to five (Kimble and Kunik 2000). Higher scores represent more knowledge about, or better use of, SLGTN (Kimble and Kunik 2000). The internal consistencies for these subscales were examined with a Cronbach's alpha of 0.63 for each of the Knowledge and Use subscales (Kimble and Kunik 2000). There were a total of 65 questions in the survey. Seven demographic questions were added by the researchers to allow for a description of the sample and to assess any significance in relation to knowledge and use scores.

Data analysis

The data was entered into the Statistical Package for the Social Sciences (Version 13.0). A Kolmogorov-Smirnov test of the data was non-significant so parametric testing was used. Descriptive statistics such as frequencies, means and standard deviation were used to examine demographic variables. Inferential analysis was used to test the difference in means of the Knowledge and Use scores. Pearson's correlation and one-way analysis of variance (ANOVA) were also used to analyse data. The level of significance for this project was set at $p < 0.05$.

Ethical considerations

Ethical approval was granted from the study hospital and the university prior to recruiting participants. Written informed consent was obtained from all participants.

RESULTS

Fifty-two in-patients from a general cardiac ward or coronary care unit were approached. Forty-seven (90.4%) met the inclusion criteria, with five (9.6%)

excluded because they lacked sufficient cognition to be able to give informed consent. Six (12.8%) declined to take part in this research. A total of 41 (87.2%) participants were enrolled and all completed the survey.

The sample included patients who administered SLGTN either in tablet ($n=21$, 51.2%) or spray form ($n=20$, 48.8%). Most had used SLGTN for months or years (70%, range 0.3 - 25 years) with some identifying its use for the first time ever during the current hospitalisation (30%). Of the 41 participants enrolled in the study, 23 were male and 18 were female. Participant ages ranged from 31 to 90 years of age with the majority aged between 51 to 70 years old ($n=23$, 56.1%) (see table 1).

Table 1: Demographic characteristics

Item	Category	n	%
Gender	Male	23	56.1
	Female	18	43.9
Age	31-40 yrs	1	2.4
	41-50 yrs	7	17.1
	51-60 yrs	12	29.3
	61-70 yrs	11	26.8
	71-80 yrs	9	22.0
	81-90 yrs	1	2.4
Marital status	Single	3	7.3
	Married	26	63.4
	Separated/Divorced	8	19.5
	Widowed	4	9.8
Education	Less than high school	5	12.2
	High school	30	73.2
	Greater than high school	6	14.6
Employment status	Employed	10	24.4
	Not working outside home	12	29.2
	Retired	19	46.3
Previous use of SLGTN	Months or years	29	70.7
	First time users this visit	12	29.3
SLGTN form	Tablet	21	51.2
	Spray	20	48.8

Participants' 'Knowledge' of SLGTN

The possible range of scores in relation to participant's Knowledge of SLGTN was from zero to seven with higher scores representing more knowledge. The total mean Knowledge score for the sample was 3.98 (SD=1.21, range=1-7). The mean Knowledge score of men in the sample was 3.91 (SD=1.28, range=1-7) with women gaining a higher mean score of 4.06 (SD=1.16, range=2-6). However there was no significant difference between male and female total scores ($t = -0.369$, $df = 39$, $p=0.71$). As well, there were no significant differences

in individual items between men and women however; females gave an incorrect answer to item seven, more frequently than male participants.

Participants were knowledgeable about the proper way to store and transport SLGTN (see table 2). Approximately one quarter of the participants knew using SLGTN to prevent chest pain is an appropriate use for the drug. There were no significant gender differences between most of the Knowledge items; however, most females did not know that SLGTN could be used to prevent chest pain (see table 2).

Table 2: Knowledge subscale test results by Item (*% for correct answer given by gender)

Item number	Item Area	Male n = 23 (*%)	Female n = 18 (*%)	Total n = 41 (%)
1	How does anginine tablets or nitrolingual spray work?	8 (34.8)	7 (38.9)	15 (36.6)
2	The proper way to store and transport anginine tablets or nitrolingual spray.	20 (87.0)	17 (94.4)	37 (90.2)
3	Limit on number of anginine tablets or nitrolingual spray taken during any pain episode	11 (47.8)	9 (50.0)	20 (48.8)
4	Proper time sequencing of anginine tablets or nitrolingual spray doses.	11 (47.8)	10 (55.6)	21 (51.2)
5	Appropriate body position to take anginine tables or nitrolingual spray	17 (73.9)	15 (83.3)	32 (78.0)
6	Appropriateness of taking anginine tablets or nitrolingual spray for other symptoms	15 (65.2)	13 (72.2)	28 (68.3)
7	Whether using anginine or nitrolingual to prevent chest pain is appropriate?	8 (34.8)	2 (11.1)	10 (24.4)

Other important findings related to knowledge, side effects and previous experiences

Participants were asked the correct way to check if their SLGTN had expired. All the participants who were prescribed SLGTN spray knew how to check the expiration date of the medicine. For those who were prescribed the tablet form of SLGTN, just under half did not know how to check the expiration date. Participants were also asked about the characteristics of SLGTN at administration time. Over a quarter of the participants (26.8%) thought SLGTN needed to burn or sting when used to be effective.

Participants were asked what the side-effects were from the drug. Although one third developed headaches or were dizzy the first time they took the medication, over 70% of those who had reactions

to their SLGTN did not change the way they used their SLGTN. However 30% did change the form of SLGTN and saw a reduction in the occurrence of side effects by taking another form of SLGTN (either changed from tablet to spray, or from spray to tablet). This finding may be important for providing advice to clients about options available if they experience side-effects.

Participants were asked when they last received information about SLGTN by a health care professional. Most of the participants ($n=23$, 56.1%) claimed they had not received any SLGTN instruction for more than one year (from one to over ten years), and some could not remember their last SLGTN instruction. Doctors were the most frequent providers of instructions about SLGTN (78%) in this group.

Participants 'Use' of SLGTN

Twenty-eight of the 41 participants were eligible to answer all Use questions as 12 were first-time users of the medication so did not have previous experience and one participant had not experienced chest pain since the prescribing of the medication. The possible range of scores in relation to participants' use of SLGTN was from zero to five with higher scores representing appropriate use of SLGTN. Female participants scored better than male participants with half answering all five questions correctly. The mean Use score for men was 3.43 (SD=0.94, range=1-4), and the mean Use score for women was 3.93 (SD=1.27, range=2-5). The total mean Use

subscale score was 3.68 (SD=1.12, range=1-5). There was no significant difference between male and females ($t = -1.19$, $df = 26$, $p=0.25$).

Nearly all the 28 eligible participants administered their SLGTN in the appropriate body position - sitting or lying down ($n=27$, 96.4%). By contrast, fewer than half of the 28 participants ($n=12$, 42.9%) transported SLGTN in a manner that would protect it from light and heat (See table 3). However most of the female participants transported SLGTN correctly by carrying the drug with them in their handbags. This gender difference was significant ($t = -5.316$, $df = 21.8$, $p<0.000$) (see table 3).

Table 3: Use subscale test results by Item (*% for correct answer given by gender)

Item number	Item area	Male n=14 (%)	Female n=14 (%)	Total n=28 (%)	p
1	Was SLGTN carried at all times?	12 (85.7)	11 (78.6)	23 (82.1)	
2	Was SLGTN stored in the appropriate container?	12 (85.7)	11 (78.6)	23 (82.1)	
3	Was SLGTN transported in a manner that would protect from light and heat?	1 (7.1)	11 (78.6)	12 (42.9)	* <0.000
4	Was SLGTN taken when in appropriate body position?	14 (100)	13 (92.9)	27 (96.4)	
5	Was SLGTN taken for other symptoms beside angina pain?	9 (64.3)	9 (64.3)	18 (64.3)	

($p<0.05$)*

Patient characteristics influencing the level of knowledge and use of SLGTN

When participant characteristics were examined, none were found to be predictors of SLGTN knowledge. Pearson product-moment correlation analysis indicated that the Knowledge scores only accounted for 7.73% (r^2) of the variance of Use scores. This small positive relationship indicates that as Knowledge scores increase, so do Use scores.

DISCUSSION

The current study found deficits in some areas of patients' knowledge and these may cause poor management of their cardiac condition and more frequent episodes of angina (Adams et al 2005; Lilley et al 2005; Lehne 2004). Findings suggested participants need to improve their level

of knowledge and SLGTN management which may further support self-care of their cardiac condition. Although participants lacked basic knowledge of the pharmacodynamics of their SLGTN, this did not equate to incorrect use of SLGTN. However participants were at risk of overdosing on SLGTN because they were unaware of the limitations of doses. In practice, one-quarter of the participants who took more than one dose of SLGTN took them all together (at the same time). This may prove problematic as excessive dose of medication can cause direct physiological harm (Lehne 2004) as reported by one participant who stated on one occasion when she took too many tablets in a very short period of time she fainted. Patients who do not understand dose limitations and sequencing are at a risk of using SLGTN ineffectively while having chest pain and this may decrease their

enabling skills to manage their chronic condition. Whatever mode of patient medication instruction is used (for example, leaflet or face-to-face,) correct SLGTN time sequencing needs to be clear (Timmins and Kaliszer 2003).

Fewer than half the overall sample (42.9%) and only 7.1% of men transported and protected SLGTN from light and heat. This leads to the possibility of patients (especially men) using medication with reduced potency (Lehne 2004; Bryant et al 2003). Patient education could focus on strategies for men to appropriately carry and transport their medications (not in their clothes' pockets).

In the current study, patients' knowledge about using SLGTN to prevent symptoms other than chest pain was poor (see table 2). This indicates appropriate patient education of SLGTN use for symptoms needs to be a crucial component of patient education (Timmins and Kaliszer 2003). Consistent with Kimble and Kunik (2000), only a small number of participants (24.4% in the current study) knew SLGTN can be used to prevent chest pain. This indicates possible limitations on the effectiveness of this first-line self-managed therapy to improve patients' quality of life and provide symptom control (Braden 1993).

It is suggested SLGTN tablets should be replaced every three months after opening the container in order to maintain drug potency (Bryant et al 2003; McCuiston and Gutierrez 2002). One-third of those who took SLGTN tablets and checked the expiry date of their medicine did not know to mark the new expiry date after opening the bottle. Some patients therefore are risking taking drugs with reduced potency thus being ineffective in improving myocardial oxygen supply for immediate symptom control.

Another area where participants' knowledge was lacking was their misconception there needed to be a local reaction at the time of administration of SLGTN. Over a quarter of participants in the current study (26.8%) thought SLGTN needed to sting or burn to indicate it was working effectively. Some participants revealed if they did not feel any sting or burn when taking SLGTN, they would get a new

prescription. This is an unnecessary waste of money and medication.

Consistent with other studies (Kimble and Kunik 2000) headaches were the most frequent side effect, however contrary to Kimble and Kunik's USA study, all the participants in the current study did not subsequently reduce their use of SLGTN. Rather, about 10% of the participants from the current study changed their way of using SLGTN by taking it in a different form (either from sprays to tablets, or from tablet to sprays), and all were satisfied with their new mode of drug administration. Perhaps in Australia, health professionals are proactive with their information on alternative drug administrative methods in the event of side effects.

An issue of great concern was that some participants did not always take SLGTN when experiencing chest pain. Their reasons included: they took digestion medication instead, or their medication was not available, or ambulance personnel instructed them to await their arrival. These findings showed SLGTN information and instruction given by health care providers was inadequate for effective symptom control. It is critical that consistent information is given to patients by all health care professionals in order to reduce the risk of patients' mismanagement of their angina symptoms.

CONCLUSIONS AND RECOMMENDATIONS

The findings of this study are important for nurses and cardiac rehabilitation staff to consider when facilitating education sessions for patients regarding SLGTN in acute admission or rehabilitation situations. The results of the present study show patients need to know more about the self-administration of SLGTN. It is known that repetition of patient education increases patient's recall of education advice (Jowett and Thompson 2003). It is therefore suggested that health care professionals need to provide initial and on-going SLGTN education and maintenance programs (Jowett and Thompson 2003; Goble and Worcester 1999). This is particularly pertinent in the areas of angina prevention, storage and drug expiry status. Nurses in their role as health care providers

and in providing cardiac rehabilitation, are well placed to meet this need and promote long-term survival and recovery as well as improved quality of life (Jowett and Thompson 2003; Timmins and Kaliszer 2003; Warrington et al 2003).

LIMITATIONS

The small size of the study was a limitation and as such the results presented may reflect a Type II error. The convenience sampling method meant that participants may have been atypical of the population of interest with regard to critical variables (Polit and Beck 2004). The sample was drawn from one research site thus making results only applicable to that site thus restricting generalisation.

CONTRIBUTIONS

Study design: MF, MM, MC; data collection: MF; data analysis: MF, MM, MC; and manuscript preparation: MF, MM, and MC.

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Distress levels in Turkish parents of children with congenital heart disease

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KEY WORDS

Congenital heart disease, distress, mothers, fathers, parents

ABSTRACT

Objective

The purpose of this research was to determine the distress levels of parents of children with congenital heart disease and identify factors that influenced the levels of distress.

Design

The research used a cross-sectional, descriptive study design.

Setting

The setting was a Paediatric Cardiology Outpatient Clinic at a university hospital in Erzurum, Turkey.

Subject

The subjects for the research were 262 parents (130 fathers and 132 mothers) of 147 children with congenital heart disease.

Main outcome measure

The Symptom Check List (SCL- 90-R), developed by Derogatis (1997) was used to measure parents' distress.

Results

Mothers had higher scores than fathers on all distress dimensions (somatisation 1.17 ± 0.43 ; anxiety 1.78 ± 0.52 ; depression 1.54 ± 0.50 - $p < 0.001$). Additionally, the intensity of distress for both mothers and fathers increased with the severity of the child's disease.

Conclusion

Parents were seriously affected by the illness of their children. Parents (especially mothers) of children with congenital heart disease should receive psychological and emotional support from health professionals for distress stemming from parenting a child with special needs.

INTRODUCTION

Congenital heart disease (CHD) can be defined as constructive (anatomic) dysfunction of heart or large blood vessels that exist at the time of birth. CHD is one of the most commonly found congenital anomalies (Çavuşoğlu 2004; Neyzi and Ertuğrul 2002; Görak et al 1996). Congenital heart disease occurs in approximately 1% of live births (Uzark and Jones 2003; Lawoko and Soares 2002). Advances in medical and surgical management of CHD have improved survival rates and resulted in a steady increase in the number of children with CHD (Uzark and Jones 2003; Lawoko and Soares 2002; Mörelus et al 2002).

The birth of a baby is a major life cycle event and it is a source of great expectation and hope for parents. When a child is born with CHD, families must adjust to the fact that the child's disease is life-threatening, has the potential to cause permanent handicap and will dramatically affect familial daily routines (Çavuşoğlu 2004; Lawoko and Soares 2002). After learning of the diagnosis, parents are initially shocked and then tend to experience intense stress and anxiety. When concomitant anger is repressed long term, parents may develop stress-related diseases and depression (Çavuşoğlu 2004; Kobya 1997; Çavuşoğlu 1992). Various studies have demonstrated that families of children with CHD experience psychological and physical problems (Uzark and Jones 2003; Lawoko and Soares 2002; DeMaso and Campis 1991).

Studies related to CHD have shown that families suffer from chronic disappointment accompanied by increased stress that has the capacity to negatively impact on familial and marital dynamics and relationships due to physical and psychological stress, depression, feelings of guilt, and socioeconomic hardship (Ireys and Silver 1996; McCubbin 1989; Kazak 1986; Dunst and Trivette 1986; Lipsky 1985).

Response to treatment and successful outcomes of treatment may be diminished if families are left alone and unsupported, allowing potential psychological problems caused by the presence of chronic disease in a family member to develop (Baysal 1996).

One of the main nursing interventions in clinical settings (outpatient/inpatient) is to support the parents of children with CHD, such as educating, caring for and providing guidance regarding the disease, developing plans for care, being a representative of the health care team and acting as advisor to families (Bayramova and Karadakovan 2004). For a nurse to provide satisfactory support for parents suffering from psychological problems, family members must be encouraged to express their grief and to face and define their stress, suffering and other psychological, emotional or physical problems. Nurses should assess parenting distress at each health care visit to provide appropriate support and guidance. Appropriate planning and interventions can then be provided to parents who are in need of professional support (Çavuşoğlu 2004). Through support and skilled counselling, nurses may significantly influence parenting behaviour and psychosocial outcomes for children with CHD.

Knowledge of the degree of parental distress will promote more efficient nursing interventions for parents of children with CHD. The aim of this study was to determine levels of distress in parents of children with CHD and identify factors that influenced the levels of distress. Based on that knowledge, nurses will be able to plan for appropriate nursing intervention for parents.

METHODS

Setting and Sample

The study was conducted with 262 parents (132 mothers and 130 fathers) of 147 children with CHD who were seen at the Paediatric Cardiology Outpatient Clinic in the Department of Paediatric Diseases and Health Care at a university hospital, in Erzurum, Turkey between December 2004 and April 2005.

Study participants were the parents of children under 12 years old, who had a diagnosis of CHD for at least three months and who did not have any other congenital or acquired disease. The study was conducted during routine clinic visits in which mothers and/or fathers accompanied their children.

Before collection of the data, children were classified according to the child's cardiac diagnosis. In order to assess the degree of medical severity more accurately Cardiologist's Perception of Medical Severity Scale (CSEV) (DeMaso et al 1991) was rated by a paediatric cardiologist for all children. Classifications for this scale are as follows:

- Group 1: Mild disorder - lesion requires no operative intervention, only long term follow up
- Group 2: Moderate disorder - child is asymptomatic, but has had or will require operation, easy repair.
- Group 3: Marked disorder – child quite symptomatic has had or will require difficult repair.
- Group 4: Severe disorder – uncorrectable cardiac lesion or only complex palliative repair possible.

Data Collection Instruments

Questionnaire: The questionnaire was composed of 11 close-ended questions, based on previously published literature (Lawoko and Soares 2002; Tak and McCubbin 2002; Kobya 1997), designed to determine factors affecting the parents' level of somatisation, anxiety and depression and also to gather demographic information about the child with CHD.

The Symptom Check List (SCL-90-R): The SCL-90-R was developed by Derogatis (1997) and its reliability and validity was evaluated by Dağ (1991) for a Turkish population. Cronbach alpha internal consistency was 0.90 and test-retest reliability coefficients ranged between 0.65 and 0.87 in the Turkish version (Dağ 1991). In current research coefficient alphas were determined as 0.81 for anxiety, 0.84 for somatisation, and 0.90 for depression. The items in this instrument are psychopathological descriptors based on an individual's self-evaluation. These expressions are evaluated utilising a 5 point Likert scale. High scores demonstrate higher degrees of psychopathology (Lawoko and Soares 2002; Öner 1997; Savaşır and Şahin 1997; Kılıç 1997; Dağ 1991). The SCL-90-R is composed of 90 items divided into nine symptom dimensions (subscales). Three subscales were used in the current study: somatisation (12 questions),

anxiety (10 questions) and depression (13 questions). A Global Severity Index (GSI) was also calculated based on the average of individual scores for somatisation, anxiety and depression.

The questionnaire and SCL-90-R were administered during a face to face interview with parents. The interview with parents took place immediately following their child's examination in the paediatric cardiology outpatient clinic. Each interview lasted 15 to 20 minutes.

Ethics

Ethical permissions were received from participating institutions prior to the study being conducted. Additionally, informed written consent was obtained from all participants.

Data Analysis

SPSS descriptive statistics, independent sample t test, ANOVAs, and Cronbach alpha coefficient were used in the evaluation of the data.

RESULTS

Demographic characteristics

Of the children with CHD, 51.7% were female, 57.8% were aged between 3 months and 6 years and 36.1% were in group 1 of the CSEV (table 1).

Table 1: Demographic characteristics of children with CHD

Characteristics	n=147	%
Gender		
Female	76	51.7
Male	71	48.3
Age		
3 months- years	85	57.8
7-2 years	62	42.2
Medical severity		
Group 1	53	36.1
Group 2	47	32.0
Group 3	35	23.8
Group 4	12	8.1

Parents demographic characteristics are outlined in table 2: 44.7% of mothers were between the ages of 20 and 29; 52.3% were literate and graduates of

primary school; 97.7% were married; 97.0% were not employed; and 53.0% stated they did not have any economic problems. Of fathers, 59.2% were between the ages of 30 and 39; 40.0% were graduates of secondary or high schools; 100% were married and employed; and 58.5% stated they did not have any financial problems (table 2).

Table 2: Demographic characteristics of parent participants

Characteristics	Mothers		Fathers	
	n=130	% (100)	n=132	% (100)
Age				
20–29	59	44.7	17	13.1
30–39	56	42.4	77	59.2
40 or more	17	12.9	36	27.7
Education Level				
Not literate	27	20.5	-	-
Primary	69	52.3	50	38.5
Secondary-High	36	27.2	52	40.0
University	-	-	28	21.5
Marital Status				
Married	129	97.7	130	100.0
Other	3	2.3	-	-
Current employment status				
Employed	128	97.0	-	-
Unemployed	4	3.0	130	100.0
Financial Difficulties				
Yes	62	47.0	54	41.5
No	70	53.0	76	58.5

Average Distress Scores

Mothers' average scores were: somatisation (1.17 ± 0.43); anxiety (1.78 ± 0.52); depression (1.54 ± 0.50); and Global Severity Index (GSI) (1.48 ± 0.43) which were statistically significantly higher ($p < 0.001$, table 3) than those of fathers in the study.

Table 3: Comparison of parents' GSI, somatisation, anxiety and depression scores

	Mothers X \pm SD	Fathers X \pm SD	T	P
GSI	1.48 \pm 0.43	0.82 \pm 0.35	t=13.575	p<0.001
Somatisation	1.17 \pm 0.43	0.60 \pm 0.33	t=12.065	p<0.001
Anxiety	1.78 \pm 0.52	1.21 \pm 0.40	t=9.816	p<0.001
Depression	1.54 \pm 0.50	0.74 \pm 0.44	t=13.658	p<0.001

Parents' average distress scores according to children's descriptive characteristics

For those parents with young children (between 3 months and 6 years of age), mothers' average scores for somatisation, anxiety, depression and GSI were: 1.18 ± 0.44 , 1.86 ± 0.49 , 1.63 ± 0.50 , and 1.54 ± 0.43 respectively; all of these scores were higher than those of fathers. The difference between somatisation and GSI scores analysed according to age was not statistically significant ($p > 0.05$), however the difference between anxiety ($p < 0.05$) and depression ($p < 0.01$) scores was significant (table 4). Mothers' average scores for somatisation, anxiety, depression and GSI were higher for those with ill daughters rather than sons, however the difference between the groups was not statistically significant ($p > 0.05$) (Table 4). Parents whose children's were in Group 4 of the CSEV classification had higher average scores for somatisation (1.44 ± 0.48); anxiety (2.10 ± 0.57); depression (1.94 ± 0.62); and GSI (1.81 ± 0.50). The difference between the groups in terms of somatisation and anxiety was not significant ($p > 0.05$); however the difference between the groups in terms of depression and GSI scores ($p < 0.01$, $p < 0.05$, respectively) was significant.

The average score for somatisation for fathers of young children (between 3 months and 6 years of age) was 0.63 ± 0.32 ; for anxiety 1.29 ± 0.41 ; for depression 0.79 ± 0.44 ; and for GSI 0.88 ± 0.35 . The difference in somatisation scores between the different age groups was not statistically significant ($p > 0.05$), while the difference between anxiety, depression and GSI scores was significant ($p < 0.01$). Fathers with ill daughters had higher average scores for somatisation (0.64 ± 0.37); anxiety (1.23 ± 0.45); depression (0.74 ± 0.46); and GSI (0.84 ± 0.39), however the difference between the groups was not statistically significant ($p > 0.05$, table 4).

When analysed according to CSEV classification, the average score for fathers of Group 4 children for somatisation was 0.76 ± 0.44 ; anxiety 1.45 ± 0.60 ; depression 0.93 ± 0.51 ; and GSI 1.02 ± 0.49 . The difference between the groups in terms of depression and GSI score was not statistically significant ($p > 0.05$), however the difference between the groups

for somatisation and anxiety scores was statistically significant ($p < 0.05$, table 4).

Parents' average distress scores according to gender, age, educational and financial status

Mothers in the 20 to 29 age group demonstrated higher depression scores than those of the other groups, however the difference between the depression scores according to age groups was not statistically significant ($p > 0.05$, table 5).

Literate mothers who graduated from primary school had higher scores with regard to somatisation (1.23 ± 0.43); anxiety (1.89 ± 0.51); depression (1.62 ± 0.50); and GSI (1.56 ± 0.42) than the mothers in other groups. The difference between the literacy levels in relation to somatisation, depression and GSI was not significant ($p > 0.05$); however the difference for anxiety, was statistically significant ($p < 0.05$).

Table 4: Comparison of parents' SCL subcale scores according to children's characteristics

Characteristics	Mothers				Fathers			
	Somatisation	Anxiety	Depression	GSI	Somatisation	Anxiety	Depression	GSI
Gender								
Girls	1.18±0.38	1.83±0.48	1.54±0.44	1.50±0.37	0.64±0.37	1.23±0.45	0.74±0.46	0.84±0.39
Boys	1.16±0.47	1.73±0.55	1.54±0.56	1.46±0.49	0.55±0.27	1.20±0.36	0.73±0.43	0.80±0.31
Statistics and significance	t=0.210 p>0.05	t=1.108 p>0.05	t=0.070 p>0.05	t=0.478 p>0.05	t=1.600 p>0.05	t=0.394 p>0.05	t=0.109 p>0.05	t=0.552 p>0.05
Age								
0-6	1.18±0.44	1.86±0.49	1.63±0.50	1.54±0.43	0.63±0.32	1.29±0.41	0.79±0.44	0.88±0.35
7-12	1.15±0.40	1.66±0.54	1.41±0.48	1.39±0.42	0.55±0.33	1.10±0.36	0.65±0.44	0.73±0.33
Statistics and significance	t=0.321 p>0.05	t=2.103 p<0.05	t=2.473 p<0.01	t=1.891 p>0.05	t=1.461 p>0.05	t=2.586 p<0.01	t=2.586 p<0.01	t=2.383 p<0.01
Severity of child's illness								
1	1.06±0.40	1.70±0.45	1.38±0.43	1.36±0.37	0.54±0.35	1.16±0.41	0.71±0.53	0.78±0.37
2	1.17±0.42	1.73±0.56	1.49±0.44	1.45±0.42	0.58±0.30	1.12±0.37	0.67±0.35	0.75±0.31
3	1.23±0.42	1.85±0.51	1.70±0.51	1.58±0.44	0.66±0.28	1.36±0.31	0.80±0.36	0.91±0.29
4	1.44±0.48	2.10±0.57	1.94±0.62	1.81±0.50	0.76±0.44	1.45±0.60	0.93±0.51	1.02±0.49
Statistics and significance	KW 7.164 df: 3 p>0.05	KW 6.384 df: 3 p>0.05	KW 13.989 df: 3 p<0.01	KW 9.617 df: 3 p<0.05	KW 7.847 df: 3 p<0.05	KW 10.554 df: 3 p<0.05	KW 4.014 df: 3 p>0.05	KW 7.233 df: 3 p>0.05

Average scores for somatisation, depression, anxiety and GSI of mothers citing financial problems were higher than those citing no such difficulties. The difference between the groups for financial difficulties, was statistically significant for somatisation ($p < 0.05$); depression ($p < 0.01$); and GSI ($p < 0.05$); but not for anxiety ($p > 0.05$, table 5).

Fathers' average somatisation score (0.80 ± 0.41); average anxiety score (1.48 ± 0.55); average depression score (0.97 ± 0.53); and average GSI score (1.06 ± 0.47) were observed to be highest in the 20 to 29 age group. The difference between the groups was statistically significant ($p < 0.05$).

Table 5: Comparison of parents' SCL subscale scores according to their individual characteristics

Characteristics	Mothers				Fathers			
	Somatisation	Anxiety	Depression	GSI	Somatisation	Anxiety	Depression	GSI
Age								
20–29	1.19±0.45	1.83±0.51	1.66±0.53	1.55±0.46	0.80±0.41	1.48±0.55	0.97±0.53	1.06±0.47
30–39	1.15±0.44	1.79±0.51	1.48±0.47	1.45±0.41	0.58±0.30	1.17±0.37	0.72±0.44	0.79±0.33
40 or more	1.16±0.29	1.57±0.55	1.35±0.42	1.35±0.39	0.54±0.30	1.17±0.34	0.65±0.36	0.76±0.28
Statistics and significance	F:0.175 p>0.05	F:1.779 p>0.05	F:2.042 p>0.05	F:1.643 p>0.05	F:4.00 p<0.05	F:4.31 p<0.05	F:3.02 p<0.05	F:4.75 p<0.05
Education Level								
Not literate								
Primary	1.13±0.36	1.60±0.51	1.52±0.47	1.41±0.41	0.55±0.28	1.18±0.39	0.72±0.38	0.79±0.32
Secondary	1.23±0.43	1.89±0.51	1.62±0.50	1.56±0.42	0.64±0.36	1.27±0.40	0.77±0.48	0.87±0.35
University	1.07±0.45	1.71±0.51	1.42±0.50	1.38±0.43	0.61±0.33	1.16±0.42	0.70±0.47	0.78±0.39
Statistics and significance	F:1.816 p>0.05	F:3.763 p<0.05	F:1.910 p>0.05	F:2.649 p>0.05	F:0.914 p>0.05	F:0.965 p>0.05	F:0.262 p>0.05	F:0.804 p>0.05
Financial Difficulties								
Yes	1.27±0.43	1.84±0.51	1.68±0.48	1.58±0.43	0.54±0.29	1.16±0.36	0.73±0.40	0.78±0.33
No	1.08±0.41	1.73±0.52	1.42±0.49	1.39±0.41	0.63±0.35	1.25±0.43	0.74±0.47	0.85±0.36
Statistics and significance	t=2.543 p<0.05	t=1.252 p>0.05	t=3.048 p<0.01	t=2.612 p<0.05	t=-1.513 p>0.05	t=-1.313 p>0.05	t=-0.032 p>0.05	t=-1.077 p>0.05

Average GSI scores of fathers having secondary education were higher than those in other groups. The difference between GSI scores in relation to educational background was not statistically significant ($p>0.05$).

Average scores taken from all sub-dimensions of SCL-90-R for fathers citing financial problems were higher than those of fathers claiming no financial difficulties. The difference between the GSI scores relating to financial problems was not statistically significant ($p>0.05$, table 5).

DISCUSSION

The study that validated and assessed the reliability of the SCL-90-R in Turkish populations found the average GSI score to be 1.06 and suggested that a GSI score of at least 1.00 was indicative of distress (Dağ 1991). The current results indicated an average for mothers of 1.48 ± 0.43 and for fathers 0.82 ± 0.35 . Since the GSI average scores of parents was found to be above the limitation for mothers and very

close to it for fathers, it is thought these parents were seriously affected by the illness of their children. Previous studies on this subject also found parents of children with CHD (from many different cultures) have various psychological problems (Ashkani et al 2004; Krulik et al 1999; Cohen 1999; Cohn 1996; Rona et al 1998; Patterson and Garwick 1994; Rao et al 1992; Goldberg et al 1990).

Scores for mothers included in this study were found to be higher than those of fathers on all distress dimensions (somatisation, anxiety, depression, and GSI). Previously published studies comparing the distress levels of mothers and fathers have found similar results to the current study, namely mothers of children with CHD have a higher average GSI score than fathers (Lawoko and Soares 2002; Goldberg et al 1990; Emery 1989). The results of several studies indicate mothers experience psychological stress and feelings of guilt and sadness more often than fathers (Carey et al 2002; Katz 2002; Knafl and Zoeller 2000; Davis et al 1998; Gardner et al 1996).

We may conclude that mothers are more affected by their children's disease than fathers, possibly because mothers are more actively engaged in their children's care than fathers, more often in communication with their children and spend much more time with their children. Data on parental caring of chronically ill children including CHD indicate mothers are highly involved in care tasks and such involvement may lead to strain (Lawoko and Soares 2002; Jessop et al 1988).

We found no statistically significant difference in mothers' and fathers' distress levels when analysed according to their child's demographic characteristics. Although mothers and fathers had higher average distress scores for chronically ill daughters as compared to sons, the difference was not statistically significant. However a previously published study (Tak and McCubbin 2002), found the gender of the child had a significant effect on fathers' stress levels.

This study found that parents of children with more severe disease, such as in Group 4 of the CSEV, have higher distress scores, which is similar to a previously published study (Lawoko and Soares 2002). Some studies of parents of children with chronic disease (Yavaş et al 1994; Goldberg et al 1991) reported parents' moods varied according to the gravity of their child's diseases. DeMaso and Campis (1991) found mothers were influenced by the seriousness of their child's diseases and, as the severity of the disease increased, they suffered from higher level of stress, weakness and feelings of being incapable. However Mörelius and colleagues (2002) found the severity of the child's CHD is of no distinct importance to the degree of parental stress.

Among parents included in the study, those aged between 20 and 29 were found to have higher levels of distress than parents in other age groups. Interestingly, previous studies found that older parents showed more symptoms of distress (Lawoko and Soares 2002). The difference between current and previous results may be due to the fact the studies were carried out in different cultures.

This study also found parents' educational level did not have a significant effect on the level of distress.

This suggests parent's education level was not a determinant of distress for this research group.

The levels of somatisation, depression and GSI scores of the mothers who said they were experiencing financial problems were higher than those of the mothers reporting no such difficulty. This is similar to other studies in which parents' financial state did influence levels of psychological stress (Lawoko and Soares 2002; McCubbin 1989; Dunst and Trivette 1986). Askhani et al (2004) also reported parents living at lower socioeconomic levels have more severe and numerous symptoms of depression due to the difficulty in meeting the expensive and long-term requirements of such disease in addition to coping with other ramifications of the disease.

A limitation of this study was that it was based on parents' subjective assessment of their own situation.

CONCLUSION

The study found that parents of children with congenital heart disease experience varying levels of distress, with mothers experiencing distress more intensely than fathers. The significance of the study is that parents, especially mothers, who have a child with CHD are in need of psychological and emotional support. An increase in the severity of the child's disease increases the intensity of distress for both mothers and fathers. Distressed parents will experience difficulty in helping each other and other people and provide support for them. Therefore, as observed in this study, it is necessary for parents who have children with congenital heart disease to obtain enough support from health professionals so they can remain effective caregivers and family members.

Nursing interventions to meet parent's needs are important to reduce or prevent parental distress. These interventions may include support, counselling, listening, and accurate information about the current situation and expectations. Through support and skilled counselling, nurses may significantly influence parenting behaviour and psychosocial outcomes for them.

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The evaluation of the impact of the use of wool in patients with fibromyalgia on life quality

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KEY WORDS

Fibromyalgia, wool, life quality, pain, sleep disturbances

ABSTRACT

Objective

The study was conducted to evaluate the impact of the use of wool on the quality of life of patients with fibromyalgia.

Design

The study was conducted in two stages with a single-group pre-test/post-test model (before trial test model).

Setting

The research was conducted in a physical therapy and rehabilitation outpatient clinic and in patient's homes in Ankara, Turkey.

Subjects

36 patients diagnosed with fibromyalgia according to the criteria of the American College of Rheumatology were included in the study.

Interventions

The patients did not use wool in the first stage (7 weeks) and used woollen underwear, bed coverings, mattresses and woollen cushions in the following second stage (20 weeks).

Main outcome measures

Study data was collected using a general questionnaire, a Life Quality Scale (Nottingham Health Profile), Visual Analogue Scale (VAS 0-10), Pittsburg Sleep Quality Index, the number of tender points, and checklists.

Results

During the period when the patients used wool, it was found there were significant improvements in pain score (before using wool= 7.26 ± 1.42 ; after using wool= 1.93 ± 0.74), tender points count (before= 14.88 ± 2.43 ; after= 5.97 ± 2.56), Nottingham Health Profile (before= 74.28 ± 10.73 ; after= 5.98 ± 1.07) and Pittsburg Sleep Quality Index (before= 10.02 ± 3.59 ; after= 2.52 ± 1.69) ($p < 0.001$).

Conclusion

There were significant improvements in pain score, tender points count, Nottingham Health Profile in all sections, and the Pittsburg Sleep Quality Index and its components, as a result of the use of woollen underwear, woollen bed coverings, woollen mattress cover and woollen cushions in patients with fibromyalgia.

INTRODUCTION

The syndrome of fibromyalgia has been defined as a constellation of complaints including diffuse chronic pain and the presence of tender points (Burkham and Haris 2005). It is often accompanied by generalised weakness, muscle and joint aches, unrefreshing sleep, fatigue, stiffness, tension headache, irritable bowel and bladder syndrome, cognitive dysfunction, complaints of dry eyes, paresthesias, and restless leg syndrome (Goldenberg 2003; Cantürk 2000; Çapaci and Hepgüler 1999). The aetiology of fibromyalgia is unknown and the pathogenesis is not clearly understood. Treatment of fibromyalgia is difficult and requires a multi-disciplinary approach using both pharmacological and non-pharmacological interventions (Goldenberg 2003; Lash et al 2003; Çapaci and Hepgüler 1999). The goals of treatment are to reduce pain, improve quality of sleep, and increase physical activity to maintain muscle health and activities of daily functioning (Lash et al 2003; Cantürk 2000).

In various studies it was found that the quality of life for patients with fibromyalgia was lower than that for healthy controls (Madenci et al 2003; Martinez et al 2001; Neumann et al 2000). Limitations caused by pain, fatigue, decreased muscle strength and endurance, influence work capacity (Hendriksson et al 2005) and affected activities of daily living and quality of life (Karaaslan 2003; Akgün and Eryavuz 2001).

Patients with fibromyalgia were particularly affected by the cold, with cold weather aggravating the symptoms (Fan 2004; Öncel 2001; Jeffrey and Thompson 2000; Cantürk 2000; Çapaci and Hepgüler 1999). For most women with fibromyalgia, the pain was most severe when the weather was damp, rainy or cool (Schafer 1997), however all patients with fibromyalgia showed weather sensitivity (Jennifer et al 2004). Research demonstrated that cold or humid weather increased symptoms in patients with fibromyalgia while warm, dry weather reduced or relieved symptoms (Yunus et al 1981).

In humans, a function of clothes is to protect the body against the climate and changes in climate (Guyton

and Hall 2001; Ulusoy and Görgülü 1997; Çakircali 1996). Wool, in particular, an animal fibre, has been shown to have better a heat retaining capacity than fibres made from plants or synthetic fibres and is often used to keep people warm (Gürcüm 2005; Yazicioğlu 2000; Turkish Ministry of National Education 1996). It was thought that if patients with fibromyalgia, who have sensitivity to cold, used woollen underwear, woollen bed coverings, woollen mattress cover and woollen cushions they would be better able to maintain their body heat and their quality of life would be improved.

Aim

This study was conducted to evaluate the impact of the use of wool on the quality of life of patients with fibromyalgia.

METHODS

Patients

36 patients diagnosed with fibromyalgia according to the criteria of the American College of Rheumatology, who did not have other diseases, who were older than 18 years of age and who lived within the boundaries of Ankara metropolitan municipality, Turkey, were included in the study. Two months before the patients commenced the study and throughout the research, they did not participate in any other physical treatment programs and did not use regular anti-depressant drugs.

Study Design and Interventions

The study, which was a single-group pretest/post test model (before trial test model) was carried out in two stages. In the first period of seven weeks, the patients did not use wool. At the start of the first stage, the Nottingham Health Profile and the Pittsburg Sleep Quality Indexes were applied (before wool-1) to the patients. During the first stage, the patients assessed their pain levels by means of the Visual Analogue Scale (VAS 1-10) for each day and recorded on a checklist the pharmacologic and non-pharmacologic methods used. At the end of the first stage, Nottingham Health Profile and Pittsburg Sleep Quality Index (before wool-2) were applied to the patients and tender points (before wool) were examined and recorded.

In the second stage of 20 weeks duration, the patients used woollen underwear, woollen bed covers, woollen mattresses and woollen cushions every day. Woollen underwear used by the patients was made from 75% merino wool and 25% acrylic. The mattresses and cushions used by the patients were made from 100% lambs wool. A 100% lambs wool sheet which was nearly 1 cm thick was used as a mattress cover.

The patients assessed their pain levels daily by means of Visual Analogue Scale and recorded on a checklist the pharmacologic and non-pharmacologic methods used. In the 10th week (middle of wool) and in the 20th week (end of wool), Nottingham Health Profile and Pittsburg Sleep Quality Indexs were applied. An examination of tender points was made at the end of the 20 week period (after wool).

Data was collected during the period 14 November 2005 and 2 June 2006. Throughout the study, patients were interviewed four times and each of the patients was visited in their house nine times. Additionally, telephone interviews were often made.

Measurements

The data was collected using a general questionnaire, the Visual Analogue Scale (VAS 0-10), Nottingham Health Profile, Pittsburg Sleep Quality Index, tender points count, and checklists.

A general questionnaire was used to collect socio-demographic data and clinical features of the patients.

The Visual Analogue Scale (VAS 0-10) was used for the assessment of pain intensity (0=no pain, 10=most severe pain).

The Nottingham Health Profile (NHP) is one of the generic health states instruments that have been used in a wide range of diseases to assess subjective perception of physical, emotional and social aspects of illness and to monitor the progress of the disease and impact of therapy. It comprises 38 statements (answered 'yes' or 'no') in six sections: physical mobility (8 items), pain (8 items), sleep (5 items), emotional reaction (9 items), social isolation (5 items) and energy level (3 items). Scores for each section can range between 0-100 with a higher score

indicating a more severely compromised quality of life. A Turkish version of NHP scale has been developed and thoroughly tested for reliability and validity for use in Turkey (Küçükdeveci et al 2000).

In order to measure sleep quality, the Pittsburg Sleep Quality Index (PSQI) was used. The Pittsburg Sleep Quality Index is a self-administered questionnaire which assesses quality of sleep during the previous month and contains 19 self-related questions with seven components: subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, the use of sleep medications, and daytime dysfunction. Each component is scored from 0 to 3, yielding a global PSQI score between 0 and 21, with higher scores indicating lower quality of sleep. This study administered the Turkish validated version of the PSQI (Ağargün et al 1996). The tender points examination and count was made by a physical treatment and rehabilitation expert.

Daily checklists were developed to determine the pharmacologic (analgesics, muscle relaxants, nonsteroidal anti-inflammatory medications and sleeping medications) and non-pharmacologic (massage, heat and exercises) methods patients used. The checklists consisted of statements which were answered as either 'yes' or 'no'.

Data Analysis

The data from the study were assessed using the Statistical Package for Social Sciences (SPSS) 11.5 for Windows.

Socio-demographic data and patient's clinical features included in the study were calculated as number-percentage and mean-standard deviation.

Pain scores of the patients calculated every day were divided by the number of days and mean pain scores were obtained. When pain score averages in the before wool (7 weeks) and the after wool (20 weeks) were compared, paired samples t-test was used.

In the comparison of before wool and after wool tender points count, paired samples t-test was used.

In the comparison of Nottingham Health Profile in all sections and Pittsburg Sleep Quality Index before and after the patients used wool, paired samples t-test was used.

The answers given in the checklist by the patients were calculated as two different data sets, as in 'before' the wool (the first stage 7 week period) and 'after' the wool (the second stage 20 week period). When the scores, using the formula 'yes/total number of days' were compared, paired samples t-test was used.

Ethical Consideration

Ethics approval for the research was given in writing by the Ethics Board of Hacettepe University, Surgery and Medicine Applications.

FINDINGS

The mean of age of participants in this study was 38 and mean disease duration was 7 year. All the patients were female; 69.4% were elementary school graduates; 88.9% were married; and 72.2% were not employed. All the patients used cotton or synthetics underwear; 86.1% slept on ready-made beds using a synthetic mattress; and 91.7% used synthetic cushions. All the patients reported sensitivity to cold (table 1).

Table 1: Baseline clinical and socio-demographic characteristics of patients (n=36)

Variables	n (%)
Age, years mean (SD)	38.31 (8.38)
Disease duration years, mean (SD)	6.86 (4.92)
Female	36 (100.0)
Married	32 (88.9)
Single	4 (11.1)
Elementary school	25 (69.4)
Secondary school	6 (16.7)
University / high school	5 (13.9)
Employed	10 (27.8)
Not employed	26 (72.2)
Cold sensitivity	36 (100)
The feature of the underwear	
Cotton and/or synthetic	36 (100)
The feature of the bed	
Orthopaedic ready-made bed	36 (100)
The feature of the mattress	
Synthetic	31 (86.1)
Cotton	5 (13.9)
The feature of the cushion	
Synthetic	33 (91.7)
Bird feather	3 (8.3)

(SD=standard deviation)

In the first stage of 7 weeks when the patients did not use wool (before wool-1) and at the end of this period (before wool-2), there were no significant differences in the Nottingham Health Profile in all sections and the Pittsburg Sleep Quality Index in all its components ($p>0.05$).

During the period when the patients used the wool, there was significant improvement in all components of the Pittsburg Sleep Quality Index and Nottingham Health Profile in all sections, pain score, and tender points count (table.2).

During the period when the patients used the wool, a reduction in the use of pharmacologic (analgesics, muscle relaxants, nonsteroidal anti-inflammatory medications, sleep medications) and non- pharmacologic (massage, heat and exercises) was observed ($p<0.05$), (table 2).

No significance was observed in the Nottingham Health Profile in all sections and the Pittsburg Sleep Quality Index in all its componets when comparing the middle of the period when the patients used the wool (middle of wool) and at the end of the period when the patients used the wool (end of wool) ($p>0.05$).

DISCUSSION

In a study carried out by Jeschonneck et al (2000) it was found that the temperature of skin on tender points was lower in patients with fibromyalgia than in healthy individuals and that the concentration of erythrocytes was higher but their speed and fluidity was lower in patients with fibromyalgia compared to healthy individuals ($p<0.001$). Jeschonneck et al attributed the pain in tender points in fibromyalgia to the reduction of local blood flow (Jeschonneck et al 2000). In this study, woollen underwear used by patients covered all the tender points such as trapezius, supraspinatus, gluteal, greater trochanter, low cervical, second rib and lateral epicondyle except for tender points such as those that occur on occiput and knee. In this study it was found that, in the period when the patients used wool, there was a significant reduction in pain score and tender points count (table 2). The reason for the reduction in pain level and tender point counts is thought to relate to the warmth of the wool leading to an increase in local blood flow reducing the pain as circulation increases.

Table 2: Comparisons of pain, tender points count, Nottingham Health Profile, Pittsburg Sleep Quality Index scores and pharmacologic and non-pharmacologic methods used (n=36)

Measure (score range)	Before using wool	After using wool	Significance	
	$\bar{X} \pm SD$	$\bar{X} \pm SD$		
Pain, VAS (0-10)	7.26±1.42	1.93±0.74	t=21.43	0.000
Tender points count (0-18)	14.88±2.43	5.97±2.56	t=14.71	0.000
Nottingham Health Profile and sections (0-100)				
Total NHP score	74.28±10.73	5.98±1.07	t=26.67	0.000
Physical mobility	52.43±11.86	12.5±6.68	t=17.58	0.000
Energy	97.22±9.34	2.77±9.33	t=38.02	0.000
Pain	97.57±7.20	3.47±7.07	t=53.47	0.000
Sleep	60.55±24.60	3.88±9.34	t=12.28	0.000
Social isolation	65.55±28.53	5.24±11.4	t=11.01	0.000
Emotional reactions	85.66±19.98	5.24±11.4	t=19.35	0.000
Pittsburg Sleep Quality Index (0-21) and components (0-3)				
PSQI scores	10.02±3.59	2.52±1.69	t=10.43	0.000
Subjective sleep quality	2.11±0.57	0.41±0.50	t=11.44	0.000
Sleep latency	1.88±1.18	0.69±0.74	t=5.009	0.000
Sleep duration	0.72±0.97	0.11±0.31	t=3.92	0.000
Habitual sleep efficiency	0.55±0.96	0.05±0.23	t=2.91	0.006
Sleep disturbances	1.91±0.36	0.94±0.33	t=13.07	0.000
Use of drugs for sleep	0.44±0.99	0.00±0.00	t=2.67	0.011
Daytime dysfunction	2.38±0.72	0.30±0.52	t=13.33	0.000
Used pharmacologic and non-pharmacologic methods (0-1)				
Analgesics	0.44±0.29	0.08±0.10	t=7.84	0.000
Other drug	0.30±0.40	0.09±0.22	t=3.66	0.001
Massage	0.31±0.24	0.07±0.05	t=6.58	0.000
Heat	0.33±0.28	0.07±0.08	t=5.84	0.000
Exercise	0.23±0.27	0.15±0.24	t=2.67	0.011

(\bar{X} =mean, SD=standard deviation, t=paired samples t-test)

Women with fibromyalgia report difficulties in managing practical tasks requiring muscle strength and muscle endurance. Commonly mentioned work tasks and activities include repetitive movements, static muscle work as in holding tools and other objects and standing or sitting in the same position for long periods (Hendriksson et al 2005). During the period when the patients used wool in this study, they reported they were able to carry heavy loads, were able to stay in the same position for a longer period, and were able to perform repetitive movements and physical activities more easily.

In this study during the period when patients used wool, there were significant improvements in

the physical mobility and energy sections of the Nottingham Health Profile (table 2). It is thought that the warmth generated by the wool affected muscle strength and endurance in the patients with fibromyalgia in a positive direction.

Patients with fibromyalgia usually report unrefreshing and non-restorative sleep. They have an abnormality of the deepest stage of sleep, delta-wave sleep (Burkham and Haris 2005). In the literature, it is emphasised that body heat is reduced in the deepest stage of normal sleep (Potter and Perry 1997). During the period when the patients used wool in this study, it was found there were significant improvements in the Pittsburg Sleep Quality Index

in all its components (table 2). From the first day when the patients commence to use the wool, they reported they had a refreshing sleep. It is thought that the use of the wool (bed covers, mattress cover and cushions) prevented heat loss during sleep, thus promoting refreshing and restorative sleep.

CONCLUSION

This study found significant improvements in pain score, tender points count, Nottingham Health Profile in all sections, and the Pittsburg Sleep Quality Index in all its components as a result of the use of woollen underwear, woollen bed covers, woollen mattress cover and woollen cushions in patients with fibromyalgia.

RECOMMENDATION

In order to evaluate the efficacy of wool in patients with fibromyalgia, it is suggested that controlled studies using a broader sampling group should be conducted.

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Implementing clinical guidelines for acute stroke management: do nurses have a lead role?

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KEY WORDS

stroke, clinical guidelines, implementation, nurses, stroke care team

ABSTRACT

Objective

Health professionals should be aware of, and implement, best practice clinical guidelines for stroke care. Using the latest National Stroke Foundation *Clinical Guidelines for Acute Stroke Management* this study aimed to determine which member of the multidisciplinary team would most likely be responsible for taking the lead role for implementing each recommendation.

Methods

Three nurses and one allied health professional independently classified each of the 148 recommendations according to whom they thought most likely to take the lead role in implementing each recommendation. A teleconference was held to discuss any differences of opinion and gain consensus.

Results

The multidisciplinary team was identified as responsible for taking the lead role most often (n=54, 36%), followed by medical practitioners (n=52, 35%) and nurses (n=13, 8%). Nurses were identified as being involved either as the lead initiator or as part of the multidisciplinary team in implementing 79 (53%) of recommendations. A significantly higher percentage of recommendations where implementation was determined to be led by medical practitioners were attributed a Grade A or B strength of evidence (ie higher strength) (49%) when compared with those recommendations determined to be led by nurses (6%) (p=0.04). There was no significant difference between the number of Level I or II based recommendations determined to be led by medical practitioners compared to those led by nurses (59%; 11% respectively; p=0.26).

Conclusions

Neuroscience nurses have a key role in the multidisciplinary stroke team and should contribute to the implementation of many of the evidence based guideline recommendations for acute stroke.

INTRODUCTION

Stroke is Australia's second single greatest cause of death and a leading cause of disability (AIHW 2004). Every year Australian's will suffer 53,000 new and recurrent strokes at a rate of one every 10 minutes (Cadilhac et al 2005). Clinical guidelines have become increasingly popular as one strategy for busy clinicians to keep up to date with the rapidly evolving research base in order to provide best practice care (Grol and Grimshaw 2003).

The *Clinical Guidelines for Acute Stroke Management*, initially developed by the National Stroke Foundation in 2003 and updated in late 2007 (NSF 2007a), include recommendations that encompass the management of acute stroke and transient ischaemic attack (TIA) (available at <http://www.strokefoundation.com.au>). The updated document was developed according to standards prescribed by the National Health and Medical Research Council (NHMRC) (NHMRC 1999) under the direction of a multidisciplinary Expert Working Group (EWG). Each recommendation was assigned an NHMRC Level of Evidence (Box 1) (NHMRC 2007) and a grading for the strength of evidence (Box 2). 'Consensus opinion' was ascribed to those recommendations where no appropriate level I, II, III or IV evidence was applicable but where there was sufficient consensus of the EWG.

The updated guidelines present clear evidence that stroke care requires a multidisciplinary team (MDT) approach. For example, one key recommendation involves the organisation of care in stroke units (organised, active, evidence-based care provided by dedicated staff within a defined geographic area) which significantly reduces death and disability after stroke (SUTC 2007). Currently only 21% of Australian acute hospitals surveyed in mid 2007 had a stroke unit and alarmingly, of the sites that admitted 200 or more stroke patients, 13 were not providing stroke unit care (NSF 2007b).

There is however a lack of information about role delineation in terms of the implementation of clinical guideline recommendations. Furthermore,

clinical guidelines often fail to nominate the key clinician deemed to be primarily responsible for implementation of the guideline recommendations. This study examined the recommendations from the 2007 version of the NSF *Clinical Guidelines for Acute Stroke Management* (NSF 2007a) to determine which member of the MDT would most likely be responsible for taking the lead role for implementing each recommendation. Further we examined: firstly the designated level of evidence and, secondly the strength of evidence for each recommendation in relation to the different members of the MDT determined most likely to be responsible for implementation.

Box 1: NHMRC Levels of Evidence for Intervention Studies

Level	Intervention
I	A systematic review of Level II studies
II	A randomised controlled trial
III-1	A pseudorandomised controlled trial (ie alternate allocation or some other method)
III-2	A comparative study with concurrent controls: <ul style="list-style-type: none"> • Non-randomised, experimental trial • Cohort study • Case-control study • Interrupted time series with a control group
III-3	A comparative study without concurrent controls: <ul style="list-style-type: none"> • Historical control study • Two or more single arm study • Interrupted time series without a parallel control group
IV	Case series with either post-test or pre-test/post-test outcomes

Box 2: NHMRC Grades for Strength of the Body of Evidence

Grade	Interpretation
A	The body of evidence can be trusted to guide practice
B	The body of evidence can be trusted to guide practice in most situations
C	The body of evidence provides some support for recommendation(s) but care should be taken in its application
D	The body of evidence is weak and recommendation must be applied with caution

METHOD

Three nurses and one physiotherapist independently classified each of the 148 recommendations from the NSF *Clinical Guidelines for Acute Stroke Management* (2007a) according to whom they thought most likely to take the lead role in implementing each recommendation. A teleconference was held to discuss any differences of opinion and a consensus was reached.

Data Analysis

Frequencies were calculated for each recommendation by category of health professional determined to be responsible for leading implementation (ie MDT; medical practitioners (alone); nurses (alone); joint medical practitioners and nurses; allied health practitioners; or other health professionals). Recommendations were grouped by their level of evidence as follows: high level of evidence (level I and level II) versus lower levels of evidence (level III, level IV and consensus opinion) to determine differences between categories of health professional responsible for leading implementation. Strength of evidence was grouped (Grades A and B versus the rest) to determine differences between category of health professionals determined to be responsible for leading implementation.

FINDINGS

The National Stroke Foundation *Clinical Guidelines for Acute Stroke Management* (2007) provided 148 recommendations to guide the clinical practice of health care professionals. The multidisciplinary team was identified as responsible for implementing the highest percentage of recommendations (n=54, 36%), closely followed by medical practitioners (n=52, 35%). Nurses were identified most likely to be responsible for taking the lead role for implementing 8% (n=13) of recommendations. Implementation for 11% (n=17) were deemed to be led by allied health staff and other health care professionals. Nurses were thus identified as being involved, either alone or in conjunction with other healthcare professionals, for the implementation of 79 recommendations (53%) (table 1).

Table 1: Member(s) of stroke team determined to be responsible for leading implementation of recommendation (n=148)[^]

Healthcare worker taking lead role	n	%
Multidisciplinary team (MDT)	54	36
Medical practitioners (alone)	52	35
Nurses (alone)	13	8
Joint medical practitioners and nurses	12	8
Speech pathologists	4	3
Occupational therapists	4	3
Ambulance service	2	1
Pharmacists	2	1
Ambulance service and MDT	1	1
Complimentary and alternate therapists	1	1
Physiotherapists	1	1
Neuropsychologists	1	1
Multiple	1	1
Total	148	

[^] Bolded descriptors involve nurses

A total of 83 recommendations (56%) were based on level I or II evidence; with 50 (34%) of recommendations based on consensus opinion. For each of the different members of the multidisciplinary team identified most likely to be responsible for implementation of each recommendation, the level of evidence was determined (table 2). For the sub-set of recommendations determined to be led by medical practitioners or led by nurses (n=64), a higher percentage of recommendations determined to be led by medical practitioners were based on level I and II evidence (59%) (ie higher level of evidence) when compared with those recommendations determined to be led by nurses (11%), however this difference was not significant ($\chi^2 = 1.24$, df=1, p=0.26).

The highest strength of evidence (Grade A) was only attributable to recommendations where implementation was determined to be led by either medical practitioners (n=18, 37%) or the MDT (n=10, 18%). Thus there were no Grade A strength of evidence ratings for those recommendations where implementation was determined to be led by

nurses with or without medical practitioners (table 3). Furthermore, there were no Grade A strength of evidence ratings for recommendations where implementation was determined to be led by allied health practitioners or led by other health care professionals. For the sub-set of recommendations determined to be led by medical practitioners or led by nurses (n=63), a significantly higher percentage of recommendations determined to be led by medical practitioners were attributed a Grade A or B strength of evidence rating (ie higher level) (49%) when compared with those recommendations determined to be led by nurses (6%) ($\chi^2 = 4.08$, $df=1$, $p=0.04$). A total of 50 (34%) recommendations across all multidisciplinary groups were unable to be assigned a level of evidence or a strength of evidence rating as they were based on 'consensus opinion' of the EWG (tables 2 and 3).

Table 2: Levels of evidence for recommendations by member(s) of stroke team determined to be responsible for leading implementation (n=147)[#]

	Level I or II		Level III or IV		Consensus Opinion	
	n	%	n	%	n	%
MDT (n=54)	24	44	8	15	22	41
Medical practitioners (alone) (n=51) [#]	38	75	2	4	11	21
Nurses (alone) (n=13)	7	54	0	0	6	46
Medical and nursing (n=12)	5	42	1	8	6	50
Others [^] (n=17)	9	53	3	18	5	29
Total (n=147)	83	56	14	10	50	34

[#]One recommendation classified as led by medical practitioners alone stated there was insufficient evidence to provide a recommendation

[^]Speech pathologist(s), occupational therapist(s), ambulance service, ambulance service and MDT, complimentary therapist(s), physiotherapist(s), neuropsychologist(s), pharmacist(s), and combination of professional groups without the full MDT.

Table 3: Grades of evidence for recommendations by member(s) of stroke team determined to be responsible for leading implementation (n=146)[#]

	Grade A n (%)		Grade B n (%)		Grade C n (%)		Grade D n (%)		No grade/consensus n (%)	
	n	%	n	%	n	%	n	%	n	%
MDT (n=54)	10	18	7	13	9	17	6	11	22	41
Medical practitioners (alone) (n=50) [#]	18	36	13	26	8	16	0	0	11	22
Nurses (alone) (n=13)	0	0	4	31	3	23	0	0	6	46
Medical and nursing (n=12)	0	0	3	25	3	25	0	0	6	50
Others (n=17)	0	0	4	24	7	41	1	6	5	29
Total	28	19	31	21	30	21	7	5	50	34

[#]Two recommendations were not graded

DISCUSSION

The updated guidelines present essential aspects of care for acute stroke management. While medical assessment and management is paramount during this phase it is clear that the MDT plays a critical role in implementing care. The fact that nurses were deemed to play a key role in implementing over half (53%) of the 148 recommendations is noteworthy.

Recommendations determined to be implemented by medical practitioners were based on higher levels of evidence, however this figure was not significant when compared with those recommendations

determined to be led by nurses. This not significant finding may be due to the relatively low number of level I or II recommendations (n=7) determined to be led by nurses.

That there were no Grade A strength of evidence ratings for recommendations where implementation was determined to be led by nurses, led by allied health practitioners or led by other health professionals is not surprising given the lack of randomised controlled trials in acute stroke within these disciplines. More rigorous research is warranted into nursing and allied health stroke care practices to better understand optimum care for people with acute stroke.

Over a third of recommendations (n=50, 34%) across all multidisciplinary groups were unable to be assigned a level of evidence or strength of evidence rating as they were based on expert consensus opinion. It would be of interest to see how this figure alters over time as more research is undertaken into acute stroke care.

Although this analysis of the guidelines was undertaken by a limited number of participants (n=4) from only two professional backgrounds (nursing and physiotherapy) the authors consider the results are representative. The physiotherapist also coordinated the development of the guidelines and thus had detailed input from all professional groups.

Having highly skilled nurses to monitor and care for stroke patients is crucial. Analysis of the characteristics of stroke unit care highlight several areas where nursing care practices are clearly important (eg positioning and handling, early mobilisation, bladder and bowel management, fluid and food intake management) (Langhorne and Pollock 2002). Nurses have been found to be an integral part of the MDT with nursing practices closely coordinated with that of the MDT and ongoing staff education and training available to ensure nurses have expertise in stroke and rehabilitation principles (Langhorne and Pollock 2002). The current study reinforces the importance of nurses' role in the multidisciplinary team.

CONCLUSION

With an evolving evidence base it is crucial that health professionals are aware of, and implement, best practice clinical guidelines for stroke care. The current guidelines suggest timely, efficient and coordinated care from ambulance services, emergency services, and stroke services to maximise the potential of acute therapies and prevent costly complications and subsequent strokes. Furthermore, acute stroke patients should be admitted to hospital and managed in a dedicated stroke unit where evidence based care can be delivered by a MDT in an organised, coordinated fashion. Finally, accurate interpretation and implementation of recommendations will

broaden the knowledge and skill base of the specialist neuroscience nurse. The results of this study clearly highlight the multidisciplinary nature of acute stroke care and the significant role neuroscience nurses play in implementing best practice stroke care.

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Using the 'six thinking hats' model of learning in a surgical nursing class: sharing the experience and student opinions

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ABSTRACT

Objective

The purpose of the study was to test the use of a creative teaching method in developing nursing students' critical thinking skills. The 'six thinking hats' model, which was developed by Edward DeBono in 1994, is a teaching method for developing creative thinking by presenting and systematising thoughts and suggestions within a specific structure. The six different hats (white, yellow, black, red, green, and blue) symbolise the thinking system. In this method the students are expected to change their perspectives symbolised by a colour at regular intervals.

Setting

This study was conducted during the 2006-2007 academic year at Gaziosmanpaşa University.

Subjects

The research population was comprised of 41 students who were registered for the surgical nursing class in the Department of Nursing at Tokat School for Health Sciences. Purposive sampling was not undertaken for the study with the entire population of students targeted.

Method

The 'six thinking hats' model was used in theoretical lessons about breast cancer, spinal cord trauma and transplantation nursing in a surgical nursing class. At the end of the theoretic section of the class, the students' opinions were sought about the 'six thinking hats' model of learning. Data were analysed with percentage and Chi square test reporting of the responses.

Findings

The majority of the students stated that this method facilitated their empathising with the patient; sharing different ideas and opinions; considering the patient holistically; generating creative ideas; looking at an event from positive and negative aspects; and developing their system of thinking. They recommended that this class be taught using this method.

Conclusion

This study is important because it tested the use of a creative teaching method that is useful for the development of nursing students' critical thinking skills. The study is also important because there are a limited number of references in the literature about the use of the 'six thinking hats' model of learning in university education, and only one in nursing education, and having this type of study in the nursing literature adds to the improvement and enrichment of nursing education.

INTRODUCTION

The rapid advancement of science and technology in the 21st century, characterised as the age of knowledge, in addition to changes in the structure of societies, has made it essential for innovations in all areas, for example, social, economic, education and health areas (Aybek 2007; Tiwari et al 2006). Changes in the delivery of health care services has left nurses facing care settings in which extensive technology is used, meeting the requests of patients for higher quality care, and facing many problems such as complex health problems and patients' early discharge from hospital. For nurses to be able to cope with these changes and increasing responsibilities they need to have highly developed critical thinking skills (Edwards 2007; Simpson and Courtney 2002; Fowler 1998) which include creative, critical, problem based and analytical thinking, to enable them to process data and form opinions in order to reach new understandings and take on new responsibilities (Horng et al 2007; Demirci 2003; Maudsley and Strivens 2000).

It is not possible to be able to include all the rapidly expanding and changing information into educational programs to present to nursing students. For this reason it has become essential for students to acquire creative-critical thinking skills so they can find the information they need themselves and for them to develop fundamental methods of understanding that information. Fowler (1998) reported that the development of critical thinking skills that are consistent with complex, modern health care system needs are important for both nurse educators and practising nurses. The literature suggests however that traditional nursing education models do not encourage critical thinking and that theoretical knowledge is not transferred to clinical practice (Mangena and Chabelli 2005; Demirci 2003; Seymaur et al 2003; Maudsley and Strivens 2000). In a qualitative study based on interviews conducted at a nursing school at Rand African University in South Africa it was found that nursing students did not have the necessary characteristics, such as: problem solving; decision making; independent

thinking; having the courage to show empathy with different people; open-mindedness; patience; humanistic behaviours; and scientific knowledge. The reason for this was said to be that their teachers also did not have enough knowledge, were resistant to change, and did not use methods for developing students' critical thinking in classes during nursing education. To eliminate this problem, researchers have recommended that nurse educators use all aspects of critical thinking models in the educational setting and that in the place of a teacher-focused process they create a student-centred educational environment that can develop students' critical thinking skills (Mangena and Chabelli 2005).

The purpose of this research was to test the 'six thinking hats' method of teaching which, rather than loading students with knowledge, aims to have them use and produce knowledge that develop skills, such as creativity, synthesis, ability to design, problem solving, and critical thinking; and to share students' opinions about this method of learning.

LITERATURE

The most important aim of education today is to provide individuals with the capacity to be able to think flexibly and have open minds to be able to adapt to different situations. Consequently the structure of education, the content and presentation methods focus on the development of high level thinking skills, such as analysis, synthesis, evaluation, finding relationships, abstraction, summarising subjects, and having students make connections with the world outside the classroom (Seferoğlu and Akbıyık 2006; Berber et al 2002). High level thinking allows students to combine their knowledge through case studies, numerical data, and other information with their thoughts, to synthesise, generalise, give meaning, and create new ideas or meanings (Demirci 2003).

Creativity is a thought process which is sensitive to problem interference, knowledge deficits, missing elements, and inconsistency. Creativity describes difficulties and looks for and finds solutions. Critical thinking can be defined as reflective thinking and

includes high level thinking processes in which basic thinking skills are used, arguments are analysed, meaning and interpretation is developed, logical thinking patterns are developed, theories that encircle claims and prejudices are understood, and an attitude that is reliable, unique and believable is developed (Hornig et al 2007; Edwards 2007; Maudsley and Strivens 2000).

Both creative thinking and critical thinking form the foundation for nursing practice. Consequently, the nursing curriculum should be designed so that students will gain an understanding of theoretical and conceptual nursing knowledge, theory will be transferred to practice, they will develop communication and problem solving skills, and they will learn critical thinking for research and practice (Edwards 2007; Mangena 2005; Fasnach 2003). For these reason it is essential to have an approach in nursing education that is centred on learning critical and creative thinking skills.

In learning centred education the students participate actively in the learning process by exchanging ideas with others, writing, discussing, making connections with the past, putting knowledge they have acquired into practice in daily life, solving problems, and thinking on their own. For a teacher to be able to develop a learning centred class, they need to think critically and creatively themselves and use these skills to create various stimuli and opportunities that will stimulate the students to think (Edwards 2007; Mangena and Chabelli 2005; Maudsley and Strivens 2000).

Although educators agree on the importance of critical thinking skills in the educational system, they do not necessarily agree on how to develop these skills. Various programs exist for developing critical thinking. One of these methods is the 'six thinking hats' model, which was developed in 1994 by Edward De Bono (Aybek 2007; Goebel and Seabert 2006; Kenny 2003; Bonk and Smith 1998).

According to Edward De Bono the most important factor interfering with thinking is complexity. People want to do several things at the same moment as thinking. That is, there are feelings, information, logic,

dreams, and discoveries within thinking and they are combined in one place. While thinking, all these get mixed together and become inseparable. De Bono compared this situation to throwing several balls in the air and trying to catch them. Consequently, to prevent this complexity during thinking De Bono recommends the 'six thinking hats' model. This model is a system of conscious thinking that focuses an individual's thinking in a specific direction for a specific period of time (De Bono 1997).

At the foundation of the 'six thinking hats' model are six different coloured hats which are put on to represent a different point of view in our thinking and which develop creativity. De Bono summarised these hats and the process in this way (Erginer 2008; Goebel and Seabert 2006; Gözütok 2006; Erginer and Bayçu 2004; Kenny 2003; Erginer 2000; Gürkan and Gözütok 1998; Bonk and Smith 1998; De Bono 1997):

White Hat: White does not take sides and is objective. This hat contains information, data and cases. The purpose is to present information that can be accessed for evaluation and to guide questions about the subject. It is directed to gathering important information and missing information. When this hat is put on these types of questions are asked:

- What kind of information do we have?
- What kind of information do we need?
- What information is missing?
- How can get the information we need?
- What kind of questions should be asked?

Yellow Hat: Yellow, like the sun, sheds light and is positive. It is about optimistic, hopeful and positive thinking. Efforts are made with the yellow hat to find the value and advantages of recommendations that are made and to find the best aspects. Thinking is constructive and productive. Concrete proposals and recommendations are made. The questions asked with this hat are these:

- What is the best aspect of this?
- What are its advantages?
- Who can benefit from this?
- How can these advantages be brought to light?

Red Hat: Red calls to mind anger, attitudes and feelings. It gives an emotional viewpoint. When the red hat is used, a chance is given for feelings and perceptions to be verbalised without any explanation. In the same way this hat gives health care personnel permission to explain their own feelings and it also helps them to explain what the patient and family are feeling and how to recognise the feelings they have.

Black Hat: Black is pessimistic, negative and derogatory. Black reminds us of a judge's robe. De Bono emphasised that this hat is the most beneficial and needs to be the most frequently used hat. This hat draws attention to dangers. It points out risks and why something may not be beneficial. This hat is the critical hat and is an objective intervention that is done to bring to light negative situations. This hat can be used in health care to remind students of policies, protocols, laws and regulations related to situations. It can also be used to help patients, families and personnel think about the possible risks.

Green Hat: Green means blessing, productivity and growth. The colour green symbolises growth, energy and life. When thinking is done with the green hat recommendations, new opinions and alternatives are presented. The green hat gives an opportunity to find various possibilities. Everyone who uses the green hat tries to be creative. Putting on the green hat does not automatically make people more creative. However this hat can ensure there is time and attention given to thinking more creatively. This hat looks for the answers to these questions:

- What are some new ideas on this subject?
- What is interesting about this idea?
- What are the differences in these ideas?
- Where will this take me?
- What is the effect of going forward with this idea?
- When this idea is compared with what I know, what will happen?

Blue Hat: Blue represents calmness. It tries to have a regular and controlled thought process. The blue hat is used for looking directly at the process of thinking.

This hat tries to answer these questions:

- What should we do next?
- What have we achieved so far?
- What should we do to achieve more?

The blue hat is used to put the hats that are used in a row and summarises the results that have been obtained. The blue hat also observes the thinking process and makes sure that the rules of the game are followed. It helps to stop arguments and ensures discipline.

When the six thinking hats model is used, the order of hats can vary according to the characteristics of the discussion. However when any new suggestion is evaluated it is beneficial to put on the yellow hat before the black hat, because errors in new proposals are more easily found when looking at disadvantages.

Study aims

The 'six thinking hats' model was used as an experimental study in the theoretical component of the surgical nursing course in the Department of Nursing in the Tokat School for Health Sciences in Turkey at the Gaziosmanpaşa University. The students' opinions about this new procedure were sought at the conclusion of the class.

During the 2006-2007 school year there were 42 students registered for the surgical nursing course however the research population comprised 41 students. Purposive sampling was not undertaken and the entire population was targeted. The class was administered as six hours of theory and 18 hours of clinical practice.

The class was taught by two teachers, one who was a member of the faculty and one, an instructor. During the 'six thinking hats' activity a member of the Education Faculty gave his support. In the last hour of the class an Opinion Survey Form about the 'six thinking hats' model of learning, which had been prepared by the researchers, was given to the students and they were asked to fill it out and return it the following day. The Opinion Survey Form had 20 items and was prepared from related information in the literature and positive and negative student feedback. The form uses a Likert type scale for

evaluation with choices from 'I do not agree', 'I am undecided', to 'I agree'. The mean of every item on this form was calculated.

In the examination of the reliability of the Opinion Survey Form, a Cronbach alpha internal consistency coefficient of 0.96 was found, which gives a high level of reliability. However before the form is used in different areas its reliability and validity need to be re-examined. Data were analysed with percentage and Chi square test.

Written permission was obtained from the administration of the educational facility to conduct the study. Before beginning the class the students were given information about the study and written permission was obtained from the students who wanted to participate.

Study method

During the first hour of the surgical nursing course the students were given information about the method and the hats' symbols and the classes and dates when the method would be used. To help with implementing the method during class, every student was requested to make hats from cardboard of the six different colours (yellow, white, red, black, green and blue) and to bring them to class.

To prepare a physical environment which would support the students' critical thinking in the class, the students' seats were arranged in a 'U' shape so they could share the space with the teacher and see and communicate with each other (Demirci 2003). Reflective pictures were shown on the wall using a computer to support the continuation of the critical thinking process in the classroom environment. During the classes when the 'six thinking hats' model was used, six big coloured hats were put on the rostrum by the instructor for the purpose of reinforcement of the model.

The students used the 'six thinking hats' model of learning during the nursing care in breast cancer class, and again in the nursing care content in spinal cord trauma class. Finally, after the nursing care in transplantation class was given, two case studies were presented about the subject and groups of

students discussed them among themselves using the 'six thinking hats' model and then shared their group activity with rest of the class.

The questions asked in relation to each colour 'hat' for the nursing care related to breast cancer are shown in figure 1 and for nursing care in spinal cord trauma in figure 2. Discussion headings according to the 'six thinking hats' model for the case studies are shown in figures 3 and 4.

The use and order of hats in the class are explained below.

White Hat: The students were first asked to put on their white hats and define breast cancer. In this 'hat' the students discussed what they knew, what they did not know and what they wanted to find out. The students' thoughts were brought out using the brainstorming method. In this 'hat' activity the students discussed the incidence of breast cancer and the most common treatments. After the students' discussion, the instructor used slides and the question and answer method to explain nursing care in breast cancer. When the topic was finished the class evaluation was done by drawing a concept map in the classroom. The students were also asked to draw their own concept map at home to return to the instructor the following day.

Yellow Hat: In the yellow hat activity the question, 'What are the comforts experienced by an individual without breast cancer?' was discussed. Because the yellow hat is the hat that brings out the advantages and benefits and because there were perceived to be no advantages to having breast cancer, the advantages, benefits and comforts of not having breast cancer were discussed. In this 'hat', the students produced ideas about body image and wholeness, and happiness and satisfaction from physical to social and sexual lives.

Black Hat: When the students put on their black hats, the disadvantages of having breast cancer were discussed. In this 'hat' statements were generated such as the fatality of breast cancer, the side effects of chemotherapy, loss in body image, and change in sexual identity.

Red Hat: In the red hat activity the students were asked to discuss what they would do and think if they had breast cancer. Within this 'hat' the students discussed shock, denial and depression, and grief responses to body image change, and loss. When the students were asked: 'How do you think you would feel if you had breast cancer and were cured?' the atmosphere in the room changed immediately and the students joyfully verbalised their happiness.

Opportunity for discussion was provided by conducting the red hat activity after combining two hats as a red-black and red-yellow hat activity. This gave the students the opportunity to understand how a patient might feel from the first diagnosis of the illness to being cured and discharged from care.

Green Hat: The students put on their green hats and the most creative care they could give to a patient with breast cancer was discussed. In the first instance, the students had difficulty verbalising creative care. Compared to the other hats they produced fewer ideas, but even though they were few, there were some good, original ideas stated.

Figure 1: Evaluation of nursing care in breast cancer using the 'six thinking hats' model

White hat: Define breast cancer.
Yellow hat: What are the comforts experienced by an individual who does not have breast cancer?
Black hat: What are the disadvantages of having breast cancer?
Red/Black hat: If you had breast cancer what would you think?
Red/Yellow hat: If you had breast cancer and recovered what would you think?
Green hat: What is the care you will give to a patient with breast cancer?
Blue hat: What should we do now? What have we successfully done so far? What should we do to achieve more?

Blue Hat: When wearing their blue hats the students were asked to discuss the outcome of the 'six thinking hats' model as a learning and thinking system. The students stated they realised how little they used the yellow hat activity in their lives; that they empathised with the patient in the red hat activity;

and a few students who had cared for patients with breast cancer stated they felt they understood the patient's feelings better. As a class, the students felt they understood better the importance of breast cancer and made the decision to protect their patients and those around them from breast cancer and teach others about breast self examination at every opportunity.

In a similar manner the nursing care of a patient with spinal cord trauma used the 'six thinking hats' model. Because this was the second time the students had participated in this activity they were able to verbalise the hats' thinking systems more easily. The students experienced some difficulties during the blue hat activity, because there were few spinal cord trauma cases in the clinical areas and the students had limited opportunity to work with this type of patient (Tokat province has a limited number of intensive care unit beds and no neurosurgery intensive care units so patients with spinal cord trauma are generally transferred to surrounding counties) however they stated using this model of learning was better than other methods of learning, such as memorising.

Figure 2: Evaluation of nursing care in spinal cord trauma using the 'six thinking hats' model

White hat: Define spinal cord trauma.
Yellow hat: What are the comforts experienced by an individuals who has not had spinal cord trauma?
Black hat: What are the disadvantages of having spinal cord trauma?
Red/Black hat: What would you think if you had spinal cord trauma?
Red/Yellow hat: What would you think if you had spinal cord trauma then recovered?
Green hat: What is the creative care that you will give to a patient who has had spinal cord trauma?
Blue hat: What should we do now? What have we successfully done so far? What should we do to achieve more?

Two case studies were presented during the nursing care for transplantation class and discussion followed using the 'six thinking hats' model. The class was divided into eight groups of five students. The first

four groups discussed the first case study and the remaining four groups discussed the second case study. At the conclusion of the discussion every group shared their work with the class.

The students stated that the case study discussion using the 'six thinking hats' model was different from other case studies that had been presented, in particular, they realised they had neglected the

patients' and family's feelings both in the case study and in the care they had provided in the hospital. Additionally, combining the 'hats' for a red-black and red-yellow hat discussion gave the students the opportunity to experience the feelings a patient may have from when they first became ill, through diagnosis, treatment, recovery and discharge from care.

Figure 3: Evaluation of transplantation patients using the 'six thinking hats' model: case study 1

Bahadır aged 9 was receiving dialysis for renal failure and received a kidney transplant from her mother in May 2004 at a university hospital. Bahadır really loves her mother and says she will never make her mother sorry she gave her a kidney and now can run and play. Bahadır's current health status is good and her renal function tests are within normal limits.

Bahadır was asked several questions and she gave her answers.

What is illness? Not being able to play, going to dialysis and not being able to go where you want.

If you had been a doctor what would you have done? I would have made a new kidney.

Where can a new kidney be found? My mother gave it to me as a gift.

What do you think about your new kidney? Sometimes I put my hand on it and give it strength; I want it to feel me.

WHITE HAT

What do you think Bahadır understands about her diagnosis?

What are Bahadır's concerns and hopes for her future?

What is kidney transplantation?

RED HAT

Explain the family's feelings of sadness about Bahadır's condition before surgery.

How would you explain Bahadır's experience with anger?

What will Bahadır feel if she has kidney transplant rejection?

What will Bahadır's family feel if she has kidney transplant rejection?

BLACK HAT

Could Bahadır lose her kidney?

If Bahadır loses her kidney what will her mother who gave the kidney feel?

How would a CMV infection, frequently seen after kidney transplant, affect Bahadır?

YELLOW HAT

What are your opinions about appropriate holistic care for Bahadır and her mother?

Even though the choices are limited for kidney transplant, what choices are there? (mother, father, sibling, cadaver, etc.)

GREEN HAT

What are Bahadır's support systems?

What other support systems are needed?

Other than her mother, who are the people who can support Bahadır? What can be done to discover who these people are?

BLUE HAT

What do you think about Bahadır's treatment process?

Figure 4: Evaluation of transplantation patients using the 'six thinking hats' model: case study 2

Fatma is 7 years old and she was receiving dialysis until May 2002 when she received a cadaveric kidney transplant. However in July 2005 graft rejection occurred and a graft nephrectomy had to be done. Currently she is on the waiting list for organ donation.

Fatma was asked several questions and she gave her answers.

What is illness? To be on a diet; to not be able to eat ice cream.

Who do you want to stay with you when you are in the hospital? My mother. If she can't stay with me I am left all alone.

What advice can you give to someone who is just starting dialysis? Don't be angry; you won't feel pain.

If you were a doctor what would you do? I wouldn't dialyze anyone; I would find them a kidney right away instead.

WHITE HAT

What do you think Fatma understands about her diagnosis?

What are Fatma's concerns and hopes for her future?

What is kidney transplantation?

RED HAT

Explain the family's feelings of sadness about Fatma's condition after her surgery.

How can you explain Fatma's experience with feeling angry?

What did Fatma feel when she had kidney transplant rejection?

What did Fatma's family feel when she had kidney transplant rejection?

BLACK HAT

Could Fatma die?

What does the family who gave Fatma the cadaveric kidney feel because she lost the kidney?

How will Fatma be affected by CMV infection, frequently seen after kidney transplantation?

YELLOW HAT

What are your opinions about giving Fatma and her mother appropriate holistic care?

Even though the choices are limited for kidney transplant, what choices are there? (mother, father, sibling, cadaver, etc.)

GREEN HAT

What are Fatma's support systems?

What other support systems should she have?

Other than her family, who are the people who can support Fatma? What can be done to discover who these people are?

BLUE HAT

What do you think about Fatma's treatment process?

RESULTS

The students' opinions about the 'six thinking hats' model of learning are listed in table 1. As can be seen in the table, 87.8% of the students stated that the method allowed for sharing different ideas and thoughts; 85.4% that it ensured they considered the patient holistically; 85.4% that it made it easier for them to empathise with the patient; 82.9% that it helped them look at positive and negative aspects

of the subject; 90.2% that they learned to think from different aspects; and 75.6% that it helped them to produce creative ideas.

It was also found that 24.4% of the students thought that the method was time-consuming; 7.3% that the black hat activity had a negative effect on their thoughts; and 12.2% that it turned their empathy into sympathy and had a negative effect.

Table 1: Distribution of students' opinions about the 'six thinking hats' model

Student Opinions Number and Percentages	I don't agree		I'm undecided		I agree	
	n	%	n	%	n	%
1: It helped me produce creative ideas.	10	24.4	0	0	31	75.6
2: It made it easier for me to empathise with patients.	5	12.2	1	2.4	35	85.4
3: Empathy turned into sympathy; it had a negative effect on me.	30	73.2	6	14.6	5	12.2
4: It helped me understand the lesson better.	6	14.6	6	14.6	29	70.7
5: It provided for sharing of different ideas and thoughts.	4	9.8	1	2.4	36	87.8
6: It ensured the patient was considered holistically.	5	12.2	1	2.4	35	85.4
7: In particular the black hat activity (negative) made me pessimistic	30	73.2	0	0	11	26.8
8: It made me notice the positive and negative aspects of a disease.	6	14.6	1	2.4	34	82.9
9: It will support my giving of high quality care.	5	12.2	5	12.2	31	75.6
10: It helped me detect differences in my thoughts and helped me know myself.	6	14.6	6	14.6	29	70.7
11: It improved my thinking systems.	6	14.6	3	7.3	32	78
12: I learned to think about different aspects of a subject.	4	9.8	0	0	37	90.2
13: It made me respect different ideas.	7	17.1	3	7.3	31	75.6
14: It made me use what I had learned.	5	12.2	8	19.5	28	68.3
15: It helped me develop my creativity.	7	17.1	5	12.2	29	70.7
16: Discussing the subject from six different aspects was time consuming	25	61	6	14.6	10	24.4
17: It increased my interest and motivation in class	6	14.6	2	4.9	33	80.5
18: It made me think critically.	7	17.1	7	17.1	27	65.9
19: It made me analyse and synthesise the knowledge I had.	4	9.8	6	14.6	31	75.6
20: It moved away from memorising and ensured the knowledge I gained would last.	4	9.8	7	17.1	30	73.2

DISCUSSION

The needs of the modern world have made it essential for individuals to have the ability to think; to enable them to solve dilemmas they may face in life and make judgements (Seferoglu and Akbıyık 2006). The teaching of thinking in education rather than simply giving and receiving information is gaining importance. The 'six thinking hats' model of learning is a beneficial method for creating a classroom atmosphere in which thoughts can be freely stated and considered within a disciplined structure. In particular, examining a subject from six different aspects helps to simplify complex thinking processes. Taking into consideration the fact that the Turkish educational system is based on memorisation and is examination focused from primary school,

an opportunity at university for students to learn critical and creative thinking is considered critical. The professional roles, responsibilities and decision making processes of nursing also make this essential.

It takes time in the beginning to discuss a subject from six different aspects. However as the students adjust to the thinking process they begin to think more quickly. It is also possible to only use one or a few 'hats' to represent a thinking system according to the characteristics of a subject.

The analysis of information and data obtained in the 'white hat' activity, the discussion of felt needs, missing information and how to find this information, has the effect of encouraging students to evaluate the information they have, to be aware of what they

need to learn and to investigate ways of finding the information. This is supported by Kenny (2003) in the study which used the 'six thinking hats' model in palliative care.

Using both the 'yellow hat' and the 'black hat' was important so the students could think about an event from both positive and negative aspects. In this study, half the students' felt this supported their awareness of the positive and negative aspects of a subject and all students felt it helped them think differently about a subject. In health care, the ethical principal of benefiting a patient and avoiding harm makes it necessary for the advantages and disadvantages of all treatment and care that will be given to patients to be considered. There are advantages for the health care team to use the thinking system symbolised by the yellow and black hats to foresee the treatment and care method that will have the most benefit for the patient. Consequently it is suggested that doing critical thinking exercises in education will have a positive effect on the development of critical thinking skills in students which they can then use in practice (Seferoglu and Akbiyik 2006; Demirci 2003).

In the 'red hat' activity the students' attempts to describe the patient and family's feelings gave them insight into a patient and family's psychosocial issues and promoted holistic care. The students' understanding of a patient's feelings and thoughts is connected with their empathy skill. Empathy is one of the important concepts in nursing. Empathy, although a personal characteristic in general, is a characteristic that can be developed through education. An appropriate educational atmosphere needs to be provided for the development of these characteristics in nursing students (Tutuk et al 2002). The 'red hat' activity created an opportunity for students to develop their empathy skills. In the analysis of students' opinions it was found that the overwhelming majority of the students (85.4%) found this method of learning made it easier for them to empathise with the patient and to consider the patient holistically. It was thought that in the 'red hat' activity the students' attempts to recognise and analyse their own feelings and thoughts would

be supported in a positive way, however 12.2% of students had a converse effect and felt the 'six thinking hats' model turned their empathy into sympathy and had a negative effect. This may be a result of the subjects that were chosen; having all female students perhaps made it easier for them to identify with the breast cancer patient; and using a child for the transplantation case study may have had an effect on this result. It is necessary to investigate further and in more detail whether it was the method or the chosen subjects which turned their empathy into sympathy. In particular, giving the students the opinion survey form at the conclusion of every subject and comparing the results may have provided better information on this subject.

The 'green hat' activity was beneficial in helping students be aware of their efforts at creative thinking. In the students' opinions 75.6% agreed that this method helped them produce creative ideas.

The 'blue hat' activity helped students focus on thought process, the information they obtained, the evaluations that were made, and what else could be done. Students and nurses on the wards actually use the system of thinking represented by the 'six thinking hats' in the nursing process used in planning and implementing nursing care without being aware of it. For example in the data collection and analysis stage of the nursing process they have to use the 'white hat' thinking system, when planning individualised patient care the 'green hat', and when evaluating the outcomes of care the thinking system represented by the 'blue hat'. The 'six thinking hats' system organises the thought processes to consider a subject, and simplifies the thinking process for focusing on one aspect of a subject and facilitates considering a subject from every aspect.

CONCLUSION

The teaching of creative and critical thinking has become essential in nursing education today. Individuals who have critical thinking skills feel the need to improve themselves and revise what they have learned. Individuals who have not gained this skill remain rigid in relation to what was learned and

are not generally creative and constructive (Demirci 2003). Consequently there is a need to test the use of educational models that will teach creative and constructive thinking in nursing education. For these reasons it was thought that it would be important in this study to share the experiences gained using the 'six thinking hats' model in nursing education.

The 'six thinking hats' model is a method of learning that not only improved the students' creative and critical thinking abilities; it also had a positive effect on their empathy skills and getting to know themselves. In the future using this method in different areas of nursing education and sharing the results will have a positive effect on teaching. In addition the system of thinking used in the method will not only help the individuals in their professional lives but also will help them make the right decisions in their personal lives.

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Cancer patients' sensemaking of conversations with cancer nurses in outpatient clinics

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sensemaking

ABSTRACT

Objective

Communication is of significant importance to cancer patients however little is known about how they experience and make sense of their interactions with cancer nurses. This study was designed to investigate how and in what ways patients interpret initial consultations with cancer nurses in terms of how they perceive the role of the nurse.

Design

This qualitative study involved 'sensemaking' interviews with patients following their first consultation with nurses.

Setting

The study was carried out in two outpatient cancer clinics in hospitals in Norway.

Subjects

The sample consisted of nine cancer outpatients experiencing a range of cancer situations.

Main outcome measures

The main outcomes measure was an understanding of the way in which cancer patients make sense of the role of nurses following initial consultation.

Results

Preconceptions of the role of the nurse were limited, with the nurse perceived as playing a mainly functional, task-centred, role. Patients' actual experience broadened their sense of the role of the cancer nurse to encompass a psychosocial supportive role.

Conclusions

The sensemaking approach used in this study offered a depth of insight into core factors that shaped the patients' understanding. It is argued this approach has benefits for nursing research. Possible advantages for nursing practice and further research are suggested.

INTRODUCTION

This paper examines how and in what ways cancer patients interpret and make sense of their initial interactions with nurses. It is known from research that communication is of significant importance to cancer patients (Botti et al 2006; Fincham et al 2005) however much less is known about how patients actually experience and make sense of their interactions with nurses. This study was designed to help redress this research gap by conducting 'sensemaking' interviews with cancer outpatients immediately following their first consultation with cancer care nurses. The study was based at cancer outpatient clinics in Norway. Patients referred to these clinics have initial consultations with oncology physicians about diagnosis and medical treatment. After these consultations, follow-up conversations take place with specialist oncology nurses. Here the patient and the specialist nurse are meeting one other for the first time. The purposes of these nurse conversations are fourfold: to establish a caring relationship; to clarify for patients any issues that may have emerged during the consultation with the physician; to discuss in more detail any individual caring needs identified; and to prepare patients for cancer treatment that is planned to take place at the clinics.

Sensemaking and meaning construction

The concept of 'sensemaking' literally means making sense of events and attempting to understand the situation so that decisions can be made about how to respond effectively (Klein et al 2006a, 2006b; Mills 2006). This concept has been studied since the early 1980s (Dervin 1983) with much of the research being carried out in the organisational context (Bean and Eisenberg 2006; Bean and Hamilton 2006; Weick 2007, 2001). Engaging in a sensemaking encounter allows people to express exactly how they feel, since: "Whether an explanation makes sense depends on the person who is doing the sensemaking. The property of 'being an explanation' is not a property of statements but an interaction of people, situations, and knowledge" (Klein et al 2006a p.72).

Sensemaking involves the sensemaker converting experiences into a form of intelligent reality. Klein

et al (2006b p.88) noted that: "When people try to make sense of events, they begin with some perspective, viewpoint, or framework". They term this initial perspective a 'frame'. While frames are used to decide what counts as data, they also help to shape the data. For example, a car smash will be perceived differently by the driver of each car, the passengers, the police, the insurance companies, and health professionals who have to treat the injured. In addition, frames are not static entities, but change as further information is gathered. In this way, interpretations of previous experiences change over time, in line with new information, differing emotional states, and prevailing circumstances. People do not deal with the world event by event, but rather frame events in larger meaning structures that provide them with an interpretive template within which they can make sense of relevant aspects of the events that they experience (Bruner 1990).

Interpretation is the explanation or meaning a person creates in his or her reflection to make sense of an event. This structural process is retrospective, in that people look back on events and construct their meaning (Mills 2009). Human beings experience what happens and then shape their interpretations in the context of their understanding of the ongoing order in life (Gwyn 2002). Communication is central because people must share their meanings to create a common sense of the informational environment (Seeger 2004). Sensemaking processes are therefore best understood within the context of communication patterns and relationships between the participants (Anderson et al 2005).

Sensemaking and communication in the cancer situation

When cancer patients participate in conversations with cancer care nurses, the health situation is new and patients may have feelings of uncertainty and fear of the cancer as a threat to everyday activities or to life itself. To compound the situation, cancer patients may be unfamiliar with conversations with doctors and nurses in the health encounter. So how do they make sense of this experience? To answer this question, a sensemaking approach to the patients'

experience of conversations can offer fruitful insights for nursing. Cancer patients are in highly vulnerable situation and it is important that meetings with health professionals take place in a reassuring way (Nåden and Sæteren 2006). When interacting with nurses, patients' communication goals can be difficult to actualise because the health situation is troublesome for them (Hargie and Dickson 2004). Also, patients and health care workers approach the health situation from different horizons and rank patients' needs differently (Hallström and Elander 2001).

Supported by a number of studies, Attree (2001) concluded that from the patient's perspective, the interpersonal dimension is a central component of quality care. However patient satisfaction is subjective in nature and relative due to factors such as individual perceptions and expectations (Bergenmar et al 2006). In interactions, expectations are of significance for interpreting and making sense of what happens. Patients may make sense of what they experience from the perspective of what they do or do not expect and what they do or do not value (McCabe 2004). Thus analyses of sensemaking should take into consideration what patients expect and value. Allard-Poesi (2005 p.176) noted that: "Researchers taking a sensemaking approach study the idiosyncratic and intersubjectively created meanings that people attach to their experiences". To date there is little research that employs a sensemaking perspective to investigate how cancer patients interpret their consultations with nurses. This research investigation was therefore designed to illuminate this area by answering two main research questions:

RQ1: How and from what existing framing perspectives do cancer patients interpret and make sense of the interactions they have with nurses?

RQ2: What do discussions with cancer care nurses mean to the patients?

METHOD

This study was qualitative in design, involving deep-probe semi-structured interviews with cancer patients. All patients were experiencing the

conversations with nurses at outpatient clinics for the first time. As such, a sensemaking approach was apposite, as it offered a lens through which the patients' views could be explored of what for them was an unfamiliar and potentially distressing situation. The sensemaking approach enabled the ways in which patients interpreted and made sense of their experiences to be illuminated in a way that took into consideration what they expected and how this varied from their perceptions of what actually occurred.

Sample

The sample comprised nine patients from two cancer care outpatient clinics at hospitals in Norway. A purposive, maximum variation, sample (Sandelowski 1997) of outpatients was employed in order to recruit patients experiencing a range of both primary cancer and cancer spread situations. All patients, apart from one, were going to have medical treatment, most often chemotherapy. A situation where cancer spread was found to be incorrect was not expected however when that situation actually occurred, it was added to give situational sampling variation. The cancer diseases were in breast, prostate, stomach, lung and endocrine organs, and the prognosis varied. Both male and female patients were included (4 female, 5 male); and the age of the patients ranged from 45 to 75, with an average of 59. This sample variation allowed us to compare and contrast sensemaking processes across a range of patients facing a variety of disease situations.

Procedures

Nurse leaders at clinics assisted with the sampling process and received instructions from the researchers about how this was to be conducted. The nurse leaders gave a letter to patients detailing information concerning the project, data gathering and storage, the fact that only the researchers would have access to interview recordings, that the recordings would be transcribed and analysed, when the tapes would be destroyed, anonymity procedures, the project period, and a statement about voluntary participation. The letter also included the names, email addresses and telephone numbers of the

researchers, and stated they would provide further information as required. The leaders repeated all the written information that was in the letter when they met the patients and also underlined the voluntary nature of any participation. This procedure ensured that patients could decline although no patient did decline. When the patient agreed to participate, written informed consent was obtained. Ethical approval for the study was obtained from the Regional Committee for Medical Research Ethics.

Interviews took place after the nurse-patient conversations. First, the information given initially about voluntary participation was repeated and patients were asked if they still wished to participate and whether they had any further questions before making the decision to participate. Recording procedures were explained and a small digital voice recorder with built-in microphone was then switched on. The semi-structured interviews covered patients' expectations prior to the conversations, what they actually experienced during conversations, and what all this meant to them. The patients were asked about their perceptions of the consultations and the role of the nurse, how they responded in the conversations, what they had learned from the encounter, how their perceptions might have changed, and whether there was anything they now considered they could have done differently in the consultation.

Analyses

The transcriptions were initially read in order to obtain a general impression of the interview material. Analyses and interpretations of the transcribed interviews paid close attention to labels summarising a sense of past experience, cues of events during conversations, and ways in which these were connected. Two of the researchers were Norwegian and they completed the initial transcriptions. Following these transcriptions, the data was translated from Norwegian into English. Again, checks were made by the Norwegian researchers to ensure accuracy of translation. The English researcher checked the translated text and local Norwegian modes of expression were translated into more generic English. The transcriptions were

then analysed in detail and the data sorted into main elements. A particular focus was on what patients noticed and selected, in terms of frames or labels summarising a sense of experience and ways in which these were connected. During the data interpretation process alternative assumptions were considered. Analytical charts and memo writing to facilitate the navigation process (Denzin 1994). In order to ensure inter-observer reliability, researchers coded two main pieces of transcribed tape to check for agreement about frames, events and cues identified.

Table 1: Cancer patients and treatment situations

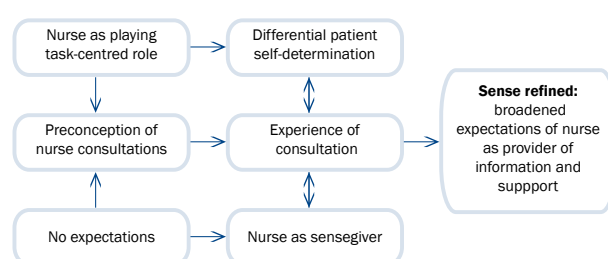
Patients	Gender	Situation descriptions
Patient P1	Male	Treatment after primary cancer coli surgery
Patient P2	Male	Treatment because of newly diagnosed prostate cancer
Patient P3	Female	Treatment after primary lung cancer surgery
Patient P4	Female	Treatment after primary cancer coli surgery
Patient P5	Male	Treatment because of spread of prostate cancer
Patient P6	Male	Treatment because of recurrent cancer in endocrine organs
Patient P7	Male	Treatment because of recurrent cancer coli
Patient P8	Female	Treatment because of spread of breast cancer
Patient P9	Female	No treatment because supposed lung cancer spread was found to be incorrect

Findings

All patients, except one, were having treatment, mainly chemotherapy. The patients' cancer treatment situations are listed in table 1. Since the sense that individuals make of events is emergent (Bird 2007), a key goal of the sensemaking interviews was to explore how patients' expectations of the conversations were construed in terms both of their actual experiences with the nurse and in relation to their pre-sense of the nurses' role. The findings revealed that in relation to preconceptions, patients could be categorised in terms of two generic types, those who tended to hold no real pre-expectations, and those who were more likely to perceive the role of the nurse to be functional and task-centred. As

shown in figure 1, the 'no expectations' group were more likely to view the nurse as sensegiver. In the second group of patients, who viewed the nurse's role as mainly task-centred, there was variation in the extent to which they were self-determined with regard to their desire to shape the consultation. Both groups of patients changed and refined their sense of the nurses' role as a result of their experiences of the consultations.

Figure 1: The process of patient sensemaking in nurse consultations



'No expectations' group

These patients had few set preconceptions for the consultations. For example, in response to the question about prior expectations, two patients responded: *'I barely considered that'* (P1) and *'I had no expectations'* (P2). Another patient, with recurrent cancer, had previously attended for planned treatment. Thus for him, the hospital situation was not new. Yet he too, seemed to have no real anticipation of what to expect:

P7: I had no expectations for the conversation.

I7: You hadn't?

P7: No I had no idea... so when the nurse came here it was completely - ahm - new.

As shown in figure 1, this group having few firm expectations of the consultations, then attributed the role of sensegiver primarily to the nurse. They viewed the nurse as the person who would make decisions about the agenda for the conversations. As expressed by one patient:

P1: She talked about milestones we might have to pass but said we didn't need to talk about those until we met them... I thought that the information she gave me was OK.

The perception here was of the nurse as someone who knew more about cancer than patients, and so could give them a greater sense of their situation. They were therefore more likely to defer to the nurse's decision-making about choice of topics for discussion:

'Nurse as task-related' group

In those instances where patients had preconceptions of the nurse's role, these were viewed mainly through a task-centred lens. Here the nurse's central role was perceived to be functional and as a support person for the physician. For instance when P5 outlined his expectations, these were framed in terms of the treatment:

P5: We were talking in relation to the treatment tomorrow - preparation today for having it tomorrow...

I5: Yes

P5: ...and that was what I expected and was prepared for when I came here.

Another common assumption was that the nurse's role would be practical while physicians would provide the relevant health information.

As shown in figure 1, patients in this group differed in the extent to which they displayed a self-determined orientation. Some expressed a wish for the nurse to drive the consultation, whereas others were more determined to help direct the conversation. For example, P1 seemed to have an 'other-determined' orientation when entering the conversation where the nurse was regarded as the sensegiver who ascribed goals for the discussion. Retrospectively, he said he found it very important that the nurse seemingly understood his wish not to have any discussion of cancer risk factors. He inferred the nurse to be: *'capable of reading more from me than I managed to tell'*. He emphasised a determination to sustain his hope for a cure and believed that the conversation underpinned his: *'remain optimistic'* strategy. Self-reinforcement of this framing viewpoint was clearly expressed: *'I have learned that to believe, to be optimistic, is half of the treatment'*.

On the other hand, P4 was determined to discuss matters that worried her. She had proposed to talk about such matters and as a result felt that: *'a lot was cleared up'* and she *'got answers'* from the nurse. Likewise, another patient, who had been living with cancer for several years, presented a sense of a self-determined orientation. He interpreted the nurse conversation as an opportunity to finally find out more about the illness:

P6: Up until now I haven't been given much information about what the disease means...but it has always been in my mind...

I6: Was this conversation one you had been expecting, or...?

P6: Yes. In fact I had been waiting some time for such a conversation.

Sense refined

When they reconstructed what had occurred during the conversation in terms of the nurse's role, there was considerable consistency across all patients. The refined sense of the nurse was that she played the important twin roles of information giver and supportive carer (figure 1). The new sense of the role of the nurse as information giver was welcomed by respondents. Patients felt not only had the nurse provided more knowledge about their treatment situation, but they now tended to view her as a valuable resource in future consultations and indicated it was very likely they would seek more information from her. P2 stated:

I couldn't concentrate on everything that was said today... so later... there may be something I want to ask about... and it's very good to have her as the same person to talk with in the future.

Thus, this patient's refined sense of the nurse gave him a new framing premise for future conversations, which also provided a feeling of security. P9, like the others, was given the nurse's business card and was invited to contact her as required. Reflecting on this procedure this patient, who was going to have no treatment because her supposed spread was invalidated, greatly appreciated this supportive back-up and perceived the role-system as including a form of early-warning check:

P 9: With such a disease you never know whether it will flare up again or not - it is good to have someone to contact if you suspect spread.

The nurse's card was warmly welcomed by this patient and provided a form of comfort which gave her a strong feeling of security. As she iterated: *'I'll take good care of that card'*. P1 also recognised the importance of the continuity role of the nurse as information provider:

P1: We didn't talk much about side effects, we'll do that later.

I1: I see.

P1: That's OK, there's a lot to take in.

I1: Yes.

P1: Yes and it has been OK to take it bit by bit... we don't need to talk about things before they are relevant.

The twin roles of information giver and psychosocial carer were seen to dovetail. A recurring perception was that nurses were calm, used a language that was understandable, and gave a clear impression of having time. This theme of the nurse having time and encouraging the patient to talk was raised several times. Thus P8 pointed out: *'Even though she maybe had other things to do, she didn't make me feel that she had anything else to do...so I felt free to talk about it'*. Likewise P7 stated: *'I have no idea of whether she was in a rush or not but she gave me the impression that she had lots of time for me...and that's what meant a lot to me.'*

In similar vein, P8 noted that she was able to discuss not just health matters (lower back pain), but also existential matters, as when she asked the nurse: *'Am I close to death?'* The nurse recognised and encouraged discussion of her emotional reactions and the patient interpreted her to be professional, insightful, receptive and caring:

P8: She was able to express what I had been thinking - and I got feedback on that... She was as close as I wanted to let her be, and was suitably human. I felt that was very good.

She also felt that the responses of the nurse were: '*better than expected*' and interpreted this as an unexpected '*gift*'. There was humour in some conversations, and the patients' sense of this was that it was a way for the nurse to display empathic rapport. For some patients discussing everyday life was of particular importance.

P7: We began with the basis for this treatment session... and moved on to talk about family and social network... family, friends and work.

I7: Yes

P7: All of that is part of the situation... and we were talking about... the family's reaction to my illness and... we were discussing many things... more a total picture.

DISCUSSION

The results of this study revealed that patient preconceptions of the role of the nurse fell into two main groups. One set of patients tended to have no real expectations, while the other perceived the nurse as playing a primarily functional, task-centred, role (figure 1). The sensemaking interviews revealed that patients refined their perceptions of the nurse's role as a result of their actual experience. It is known from previous research that where no firm preconceptions exist, perceptions are influenced by ongoing information (Mills 2006). This was the case in this study, where patients' sense of the nurse's role evolved. This sense of constructing meaning out of action is a common occurrence. Schön (1996) described the strategy of taking action to see what would happen as an 'exploratory experiment', and this seems to have been the approach adopted by these patients. Battles et al (2006) pointed out that a key purpose of sensemaking is to reduce ambiguity. This was also evident in this study, in that patients' perceptions and interpretations of the conversations broadened their sense of the role of the cancer nurse to encompass both a supportive, caring approach and an information giver.

More informed expectations of the role of nurses could help empower patients and encourage

them to play a more active and purposeful role in conversations. This could be facilitated in various ways. For example, patients could be informed beforehand in written communications, such as letters or information booklets, about the exact nature and remit of the nurse's role. These prior instructions could also encourage the patient to formulate questions they wished to ask the nurse or areas they would like to talk about in more depth. There are definite benefits to be achieved from such an approach. For instance, Brown et al (2001) found that the provision to cancer patients of a question prompt sheet prior to the initial consultation, and the systematic review of this by an oncologist, resulted in a number of benefits. Patients asked more questions about prognosis than a control group and received more information from oncologists. Consultation times and anxiety levels were reduced and recall of information significantly increased.

Patients could also be prepared more fully during the consultations with physicians with regard to the ensuing role of the nurse. At the outset of their conversations, nurses could then devote time to achieving effective set induction (Hargie and Dickson 2004). Set induction is the skill used by professionals to ensure that clients are fully prepared for the interaction to follow. It is part of the overall process of goal-setting (Dickson et al 1997). Among the main objectives of this skill are to ascertain the expectations of patients, relate these to the actual nurse's role, and agree a working rationale and agenda for the encounter.

The fact that some patients saw the nurse as sensegiver indicates a need to encourage greater concordance in consultations. In recent years there has been a move away from a nurse-centred model of health care toward one that emphasises the benefits of shared responsibility (Latter et al 2007; Lim et al 2007). Bissell et al (2004 p.851) highlighted the benefits of adopting such a concordance approach where interactions with patients are 'seen as a space where the expertise of patients and health professionals can be pooled to arrive at mutually agreed goals.' This would encourage the patient,

insofar as is possible, to take the role of joint decision-maker in consultations. Such a partnership approach where the consultation is perceived to be more of a process of negotiation would give patients greater 'ownership' of their cancer journey. Research has shown that the majority of health professionals underestimate the extent to which they lead the consultation and overestimate the degree to which they elicit and take cognisance of the patient's views. Equally, the majority of patients express a desire to be more involved in decisions regarding their treatment. Thus in a review of studies in this field, Harrington et al (2004) found that efforts to increase patient participation produced a range of positive benefits for patients, including: greater recall of information and adherence to recommendations; preference for a more active health role; perceived heightened control over health; higher attendance rates; and improved clinical outcomes. It is therefore important for cancer nurses to devise methods whereby patients can take a more proactive role in consultations.

Differences in patients' level of self-determination also seemed to influence their experience of consultations (figure 1). Those who displayed more of an 'other-determined' orientation, tended to perceive the nurse as responsible for setting the agenda. Such an attitude raises the potential for the needs of patients to remain unexplored. This is particularly the case with those cancer patients who are 'blunters' and tend to avoid information-seeking, as opposed to 'monitors' who actively seek such information (Mayer et al 2007). The problem is not only that 'blunters' may receive no detailed information about the technical aspects of their cancer, but they may also have a reduced opportunity for discussion of the psychological aspects of their illness (Særgrov and Halding 2004).

Study limitations

Qualitative sensemaking studies are usually carried out with small sample sizes so as to achieve a depth understanding of how patients make sense of their situation. This study therefore involved a small sample of patients in one country and so further research is required in this area.

CONCLUSION

The sensemaking approach employed in this study illustrated how preconceptions and conversational attitudes were frame-of-reference factors that influenced the process whereby patients refined their sense of nurse conversations. This approach has benefits for nursing research. The patient's attitudes, beliefs and values are activated in the process of making sense of communication. This provides a depth of insight into core personal and environmental factors that shape their understanding.

Planned cancer nurse conversations with outpatients are significant health events, though not always straightforward ones. The results of this study highlight important issues for nurses, particularly in relation to patients' 'nurse role' preconceptions and the constructions of nurses as sensegivers. These pose challenges for nursing practice in terms of taking action to fully inform patients about the nature of the nurse's role and to communicate skilfully and collaboratively to achieve concordance in this health care context.

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The effect of a Nursing Presence program on reducing stress in older adults in two Korean nursing homes

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KEY WORDS

nursing presence, older adult, stress, coping, cortisol

ABSTRACT

Objective

The purpose of this study was to determine the effect of a Nursing Presence (NP) program on stress in older adults in two Korean nursing homes.

Design

The design was quasi-experimental study.

Setting

This study was undertaken in two nursing homes in Daegu, South Korea.

Subjects

The subjects were 39 older female adults 68 to 87 years of age selected by purposive sampling and divided into two groups: experimental and control.

Intervention

The NP program consisted of three stages: introduction, operation and termination. The NP program was applied 8 times over 4 weeks to the experimental group. The time required for each stage was 25~30 minutes. In the control group, care was provided according to the usual routine.

Main outcome measures

Measures were stress levels and problem focused coping as psychological variables and cortisol levels as a physiological variable.

Results

Stress, problem focused coping, and cortisol levels after application of the NP program were significantly improved in the experimental group compared to the control group.

Conclusions

The results of this study suggest that the use of a Nursing Presence program can be considered an effective intervention for reducing stress and improving problem focused coping in older adult nursing home patients.

INTRODUCTION

In Korea currently, 9.1% of the total population is over the age of 65 years and this is predicted to increase to 14.3% by 2018 (Korean Ministry of Health and Welfare 2005).

Chronic disease, losing one's partner, conflicts with children and economic problems have been identified as predictors of stress for older people in Korea (Park 2004). In addition, the ageing process negatively affects the physical function of older people and exacerbates stress because of an insufficient coping ability (Waern et al 2003). This stress is regarded as one of the main causes of suicide and depression in older people (Lee et al 2004). According to the Korean Bureau of Statistics (2005) suicide incidence in older adults in Korea increased three fold compared to 1996.

In Korean culture, moving to a nursing home where the older person no longer lives with their family and has to depend on people who are not family is a significant life crisis. According to Lim's study (2002), stress in older people in nursing homes in Korea was higher than that of older people who lived at home.

Lazarus and Folkman (1984) in their cognitive appraisal model of stress suggest that people react differently in similar situations where one person's response to an appraisal of the situation might be a stress response and the other might not. They maintain that how people cope with stress is the important factor. Therefore a focus on improving the way older people cope with stress is necessary in order to reduce the stress in their lives. Choi and Yang (2004) argue that the ageing process limits the ability of older people to cope with stress and that consequently their levels of stress are greater than in any other age group. Additionally, Snyder (1992) suggests that the most reasonable approach to reduce stress in older people is not only to identify the cause of stress but also to acquire and adapt new methods and knowledge to overcome stress (Snyder 1992).

The presence of nurses is an essential component of caring and is a basic concept in all nursing interventions (Tavernier 2006). The therapeutic interaction of individual nursing interventions using professional knowledge and skill promotes healing (Jo 1999). Rankin and DeLashmutt (2006) maintain that nursing presence as a nursing intervention helps improve not only physical function but also mental health.

This study aimed to verify, by measuring stress, coping ability and cortisol levels, the effect of a Nursing Presence (NP) program in reducing stress levels in older people who were resident in two nursing homes. It was anticipated that the NP program would increase the older person's coping ability against stress and reduce stress and cortisol levels.

METHOD

Design

This research was a quasi-experimental study. This design was used to identify the effect of a NP program intervention over 4 weeks on the stress levels of older people who were resident in two nursing homes in South Korea.

Sample

The sample consisted of 39 females between the ages of 68 to 87 years of age who lived in two nursing homes located in Daegu, South Korea. The selection criteria excluded subjects with depression and dementia using Geriatric Depression Scale and Short Portable Mental Status Questionnaire (SPMSQ).

The anticipated sample size was 21 persons in both experimental group and control group based on Cohen's sampling formula which suggested a minimum sample of 20 persons (power of $1-\beta = 0.70$ in $\alpha = 0.05$). During data collection, one person from the control group and two people from the experimental group were excluded because of deteriorating health, leaving the final sample with 19 older people in the experimental group and 20 older people in control group.

Data collection

Data was collected from February to May 2007. Participation in the study was voluntary. The written consent of participants was obtained after explanation of the purpose of the study. The security of the data and the anonymity of participants were maintained. A questionnaire was used to collect data about demographic characteristics, stress levels and coping ability. Additionally, a saliva sample was collected to measure cortisol levels. The NP program was conducted by the researcher who was trained in the *Nurse Presence Training Program* in Korea. Ethics approval was obtained following review of the study proposal by the Institutional Review Board of the Catholic Medical Center in Daegu, South Korea.

Nursing Presence program

The Nursing Presence (NP) program is based on the philosophy that physical 'being there' and mental 'being with' is essential for nurses to satisfy the health needs of care recipients and is a nursing intervention which encourages an individual's capacity to overcome the pain and distress derived from the disease or ageing process (Gardner 1985). The NP program, after analyzing the concept of 'presence' (Jo and Kim, 1999), was developed by Jo (1999) with two psychologists, adding therapeutic empathy and listening skill with the attributes of concentration, openness, attention and caring which are basic element of 'presence' outlined by Snyder (1992). The NP program was run over a four week period twice a week (eight interventions in total).

Table 1: Elements of the Nursing Presence program

Stages	Purpose	Contents
First stage Introduction (3-5 minutes)	Forming rapport Meeting and setting atmosphere	<ul style="list-style-type: none"> Meeting/environmental management <ul style="list-style-type: none"> - Introduction and greeting - Identify physical status and environment Encourage formation of an personal relationship
Second stage Operation (15-20 minutes)	Openness Openness to identify and understand research subjects	<ul style="list-style-type: none"> Concern <ul style="list-style-type: none"> - Identify general information - Share here and now in common Empathy <ul style="list-style-type: none"> - Accept the emotion of feeling as it is that the research subject expresses
	Attention Open each experience, identify and search silent messages	<ul style="list-style-type: none"> Identify active nursing problems <ul style="list-style-type: none"> - Use empathy and active listening courteously Identify hidden nursing problems <ul style="list-style-type: none"> - Identify nonverbal communication messages
	Caring Solve problems in reality by expending the consciousness of subjects	<ul style="list-style-type: none"> Search the direction of action of research subjects <ul style="list-style-type: none"> - After assessing thought, feeling, physiological reaction and acting reaction, act pointing to a realistic target Reinforce the establishment of human relationships Promote physical health and wellbeing
Third stage Termination (3-5 minutes)	Self evaluation Finish	<ul style="list-style-type: none"> Make evaluation for problem solutions Rearrange the plan for the unsolved problems Lead to change in thoughts and action

Instruments

Stress

Kang (2000) developed a 22 item stress scale with 5 points on a Likert scale. It consists of 9 items about family stress, 5 items about economic stress, 3 items

about health stress, 3 items about residential stress, and 2 items about the stress from the feeling of loss. Kang (2000) reported alpha coefficients of 0.87, identified as Cronbach's $\alpha=0.83$ in this study.

Coping

Yang and Jung (2003) developed coping scales by revising Lazarus and Folkman's *Ways of Coping* (1984). Baek and Kwon (2005) revised Yang and June's scale with 30 items, however this was reduced to 22 items for this study to adapt it for older people: 11 items of problem focused coping and 11 items of emotion focused coping to adapt it to older people. The reliability of the original study was Cronbach's $\alpha=0.78$ and in this study was Cronbach's $\alpha=0.79$.

Cortisol

A research assistant collected 2cc of saliva in a conical tube after irrigating the mouths of subjects 15 minutes before collection. The saliva tube was kept at

freezing and measured by Seoul Clinical Laboratory. The method of measurement was Solid-Phase Radio Immunoassay with Coat-A-Count Cortisol (Maker: DPC, USA).

Data analysis

Data collected was analyzed using SPSS for Windows 11.5 software. Chi-square test and t-test analysis were used. Statistical significance was accepted at a p value less than 0.05.

Findings

General characteristics of the subjects

There was no significant difference in the general characteristics of the two groups as shown table 2.

Table 2: General characteristics and homogeneity of subjects

Characteristics		Control (n=20)	Experimental (n=19)	χ^2 or t	p (p< 0.05)
Age (years)		77.75 \pm 4.89	80.89 \pm 6.65	1.686	0.100
Educational level	Uneducated	8	12	4.889	0.299
	Elementary school	5	5		
	Middle school	0	0		
	Above high school	7	2		
Previous occupation	Farming	4	7	3.279	0.512
	Business	6	5		
	Housewife	5	4		
	Others	5	3		
Monthly income		60,000 \pm 55,842	25,000 \pm 69,141	1.743	0.090
Age of loss husband (years)		53.62 \pm 13.55	46.43 \pm 11.36	1.625	0.115
Frequency of correspondence with family	once a week	2	1	4.882	0.300
	1-2 times a month	10	4		
	1-2 times in 6 months	4	8		
	once a year	2	4		
	no contact	2	2		
Diseases	Hypertension	15	14	2.368	0.668
	Arthritis	6	5		
	Diabetes	5	6		
	Heart diseases	3	4		
	Herniated intervertebral diseases	2	1		
	Others	5	3		

Changes in variables before and after the NP program

As shown in table 3, homogeneity between the two groups was identified in pretest.

After the NP program, stress appeared to be significantly lowered (36.57 ± 5.21) in the experimental group compared to the control group (45.05 ± 11.37) ($p=0.005$). Family stress and economic stress was significantly lower in the

experimental group ($p=0.026$, $p=0.017$) however there was no significant differences in stress related to health, residence or from feelings of loss.

There was a significant difference in problem focused coping ($p=0.001$), whereas there was no significant difference in emotion focused coping.

Cortisol appeared to be significantly lower in the experimental group ($0.19 \pm 0.06\mu\text{g/dL}$) than in the control group ($0.34 \pm 0.27\mu\text{g/dL}$) ($p=0.042$).

Table 3: Effect of NP program on psychological and physiological variables

Variables		Control (n=20)	Experimental (n=19)	t	p * $p<0.05$
Stress	pretest	48.35 \pm 14.59	49.68 \pm 11.82	0.313	0.755
	post test	45.05 \pm 11.37	36.57 \pm 5.21	2.964	*0.005
Family stress	pretest	19.10 \pm 7.57	18.52 \pm 7.21	0.242	0.810
	post test	18.45 \pm 6.68	13.94 \pm 5.35	2.313	*0.026
Economic stress	pretest	10.85 \pm 5.77	10.68 \pm 5.74	0.090	0.929
	post test	10.05 \pm 6.00	6.36 \pm 2.33	2.498	*0.017
Health stress	pretest	10.45 \pm 3.06	8.89 \pm 1.91	1.888	0.067
	post test	10.00 \pm 2.71	10.05 \pm 4.16	0.047	0.963
Residential stress	pretest	3.95 \pm 1.31	3.78 \pm 1.54	0.349	0.729
	post test	3.95 \pm 2.06	4.00 \pm 1.24	0.091	0.928
Stress from feeling of loss	pretest	4.25 \pm 2.44	4.26 \pm 2.02	0.018	0.986
	post test	3.70 \pm 2.31	2.89 \pm 1.82	1.201	0.237
Coping problem focused	pretest	18.95 \pm 5.23	20.84 \pm 6.91	0.967	0.340
	post test	23.60 \pm 3.58	26.89 \pm 6.14	2.057	*0.047
Coping emotion focused	pretest	24.25 \pm 4.10	26.57 \pm 3.45	1.913	0.064
	post test	24.55 \pm 3.63	26.15 \pm 6.66	0.942	0.352
Cortisol ($\mu\text{g/dL}$)	pretest	0.17 \pm 0.17	0.23 \pm 0.11	1.424	0.163
	post test	0.34 \pm 0.27	0.19 \pm 0.06	2.119	*0.042

DISCUSSION

Stress is thought to be a cause of physical and mental disease besides having negative effects in daily life. Previous studies have demonstrated significant differences in the stress levels of older people related to gender, age, presence of a spouse, religion, education, money, health status and leisure activity (Baek and Kwon 2005; Choi and Yang 2004; Lee et al 2004; Shin and Kim 2003; Lim 2002; Seo et al 2001; Yoon and Kim 1994). In this study, there were no significant differences in these stress factors between the two groups, that is, the groups were

homogenous in these variables that can influence stress levels.

In this study, pretest stress levels were 49.68 in the experimental group which was higher than the stress levels shown in Kim's study (37.98) (2006) which, using the same instrument, investigated 154 older people who lived at home. After application of the NP program, the post test stress levels in the experimental group in this study were significantly decreased (36.57).

The pretest family stress levels (18.52) in the experimental group were higher than those in Kim's

study (17.57) (2006). According to Gwon and Cho (2000), communication frequency with children has an influence on the stress levels of older people. In this study, the frequency of correspondence with family was a mean 69.6 days which could account for the higher pretest family stress levels in the experimental group. After application of the NP program, family stress levels were significantly reduced (13.94). This is thought to be due to the effect of the caring and attention attribute included in the NP program which made the subjects feel they were protected and supported.

The pretest economic stress in the experimental group (10.68) was as similar to that in Kim's study (10.66) (2006). After the application of the NP program, the post test economic stress levels were significantly lower (6.36). In this study, although there was no change in economic income, it can be inferred that subjective satisfaction about economic state became higher after the NP program. It is considered that NP program promoted economic satisfaction through a focus on the positive aspects of a person's situation.

The pretest health stress (8.89) was higher than that in Kim's study (8.41) (2006). This is possible because the older people who participated in this study were older people who chronic diseases (as shown in table 2) and who could no longer care for themselves. Lim (2002) in comparing health perceptions of older people who lived at home with those who were resident in a nursing home found that less people at home considered themselves not healthy (63.3%) compared to 86.6% of older people resident in a nursing home. However in this study, health stress was not decreased after application of the NP program, in contrast to the theory that the NP program has physical and mental effects.

In this study, residential stress was lower (3.78) than in Kim's study (4.82) (2006). A possible reason is because the nursing home in this study was a place with modern equipment and satisfaction with the general environment was high. The NP program had no significant impact on residential stress.

Stress from feelings of loss were lower (4.26) than in Kim's study (4.86) (2006). This is possibly because one of the reasons for entering a nursing home is the death of a spouse so these older people had already undergone this loss.

The cortisol levels in this study were significantly lower after application of the NP program. This coincides with the study of Kim et al (2006) who found that the cortisol levels in hospice patients became significantly lower after horticultural therapy. Because cortisol is a stress hormone, direct changes in the sympathetic nervous system can be measured. In this study cortisol levels decreased after application of the NP program, so it can be inferred that the NP program is a useful treatment to reduce stress reaction.

Coping can be described as problem focused coping and emotion focused coping (Lazarus and Folkman 1984). Problem focused coping is when an attempt is made to regulate or change the source of the stress. Emotion focused coping is when the individual tries to regulate their own level of suffering. In Korea, it has been found that young adults use problem focused coping more actively (Yang and Jung 2003) in contrast to older people who use emotion focused coping more (Cho 2005). In this study, pretest demonstrated that both groups used emotion focused coping (24.25, 26.57) more than the problem focused coping (18.95, 20.84).

As problem focused coping in the experimental group was significantly increased after application of the NP program (26.89), it can be inferred that the NP program promotes the problem focused coping strategies. Lazarus and Folkman (1984) found that people tend to use problem focused coping in a situation that they assess to be changeable and use emotion focused coping in situations they assess to be unchangeable. According to a study by Cho (2005), using problem focused coping reduces psychological symptoms more effectively than using the emotion focused coping. The NP program is thought to assist in reducing the stress by promoting the problem focused coping behaviours.

LIMITATIONS

Several limitations should be considered when interpreting the findings of this study. Because of small sample size and convenient sampling method, the subjects may not be truly representative of nursing home residents generally. As the study was based in South Korea, cultural factors may have influenced the outcomes of the study.

CONCLUSION

This study found that the NP program could decrease stress in older residents in a nursing home by promoting problem focused coping, however more research about the effectiveness of the NP program on other age groups under stress are needed. The NP program supports recognition of the importance of developing individualised nursing intervention which consider personal characteristics based on humanistic existentialism.

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Population ageing and the politics of demographic alarmism: implications for the nursing profession

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KEY WORDS

Population ageing, public policy, social justice, advocacy, nurses, Australia

ABSTRACT

Objectives

This article provides a brief examination of the prejudices and politics framing current public debate on population ageing in Australia and the possible implications of this for the allocation of required health and social sector resources. The role and responsibility of nurses and professional nursing organisations to engage in and influence public policy debate concerning the health and social care of older people is highlighted.

Setting

Australia

Subjects

Australia's ageing population and succeeding generations over the next 40 years

Primary argument

According to the Australian government, population ageing in Australia is poised to cause unmanageable chaos for the nation's public services. The cost of meeting the future health and social care needs of older Australians is predicted to be unsustainable. Officials argue that government has a stringent responsibility to ration current and future resources in the health and social care sector, cautioning that if this is not done, the nation's public services will ultimately collapse under the strain of the ever increasing demands placed on these services by older people. This characterisation of population ageing and its consequences to the nation's social wellbeing may however be false and misleading and needs to be questioned.

Conclusion

The nursing profession has a fundamental role to play in ensuring responsible debate about population ageing and contributing to public policy agenda setting for the effective health and social care of Australia's ageing population.

INTRODUCTION

According to the Australian government, population ageing in Australia is poised to cause unmanageable chaos for the nation's public services. The costs of meeting the future health and social care needs of older Australians are predicted to be unsustainable (Australian Government *Second Intergenerational Report* 2007; Productivity Commission 2005). Authorities further argue that it is a fundamental responsibility of government to ensure the provision and sustainability of public services and, to this end government must ration current and future resources in the health and social care sector. Officials go on to caution that if government does not make the tough choices that need to be made in this sector, then not only will the nation's public services be unsustainable, but they will ultimately collapse under the strain of the ever increasing demands placed on them by an ageing population.

In this article it will be argued that the 'demographic time-bomb' portrayal of population ageing in Australia is misleading and incorrect and ipso facto harmfully prejudicial to the health and social welfare interests of older Australians. With reference to the International Council of Nurses (2006) position statement on: *Nursing care of the older person*, it will be further argued that the nursing profession has a fundamental role to play in contributing to public policy debate and agenda setting for the ethically just health and social care of Australia's ageing population. This includes correcting false and misleading characterisations of population ageing in Australia (and elsewhere), working in strategic partnership with professional nursing and community based organisations that advocate for or represent older people, and actively engaging in and influencing debates on 'global ageing, the determinants of health and the impact of the social environment' with regard to people's health, welfare and overall wellbeing (International Council of Nurses 2006 p.1).

Population ageing - a global perspective

The world's population is ageing in an unprecedented manner. According to United Nations estimates, one

million people worldwide turn 60 years of age every month; of these, 80% live in developing countries, where the rate of population ageing is occurring more rapidly than it is in the developed world (WHO 2007). It is further estimated that by the year 2050, 2 billion people (being almost one quarter of the world's population) will be over the age of 60 years (WHO 2007; HelpAge International 2003; WHO 2000). Over the next 40 years Australia, like other countries, will face a pronounced ageing of its population. According to government projections, it is estimated that by the year 2045, people aged 65 years and older will constitute almost one quarter of the Australian population (Australian Government *Second Intergenerational Report* 2007; Productivity Commission 2005). These estimates in turn, have been coupled with dire predictions by government authorities, including the Australian Federal Treasury, of substantial fiscal pressures and expenditure blowouts in the areas of health, age pensions and aged care, with health costs tipped to be 'the single most important contributor to future spending pressures' (Australian Government *Second Intergenerational Report* 2007 p.xxxv). While conceding that ageing per se is not and should not be seen as a problem, the Productivity Commission nonetheless asserts that population ageing still raises major policy challenges that need to be addressed (Productivity Commission 2005 p. xxxix).

The Productivity Commission has strongly implicated the increased incidence of sickness and disability that occurs with ageing in its projected rise in health spending over the next four decades. According to its current estimates, health spending costs per person over the age of 65 years is around four times more than for persons under 65 years of age, and between six and nine times more for the oldest groups (Productivity Commission 2005 p. xxix). In the case of the Pharmaceutical Benefits Scheme (PBS), costs per person have also been strongly correlated with age, with the average cost for a male 65-74 years being 18 times more than that for a male aged 15-24 years (Productivity Commission 2005 p. xxviii).

The position taken in the reports produced by the Australian Productivity Commission and Treasury is unequivocal: the projected costs in health and health care are unsustainable in the long term; government has a responsibility to constrain future rises and expenditure in health costs relative to GDP; to these ends, new and major policy approaches 'at all levels of government' (as well as actions by others) on a number of fronts are required (Productivity Commission 2005 pp. xiii and xxx). The ultimate conclusion drawn from these official reports seems to be that Australia's ageing population is a 'ticking demographic time-bomb' that is poised to cause unmanageable chaos for the nation's public services - especially health care (O'Connell and Ostaszewicz 2005). Thus, since health care resources are limited, it stands to reason that such resources need to be rationed; otherwise the nation's health care services cannot be sustained and may even collapse under the burden of meeting the costly future care of older Australians.

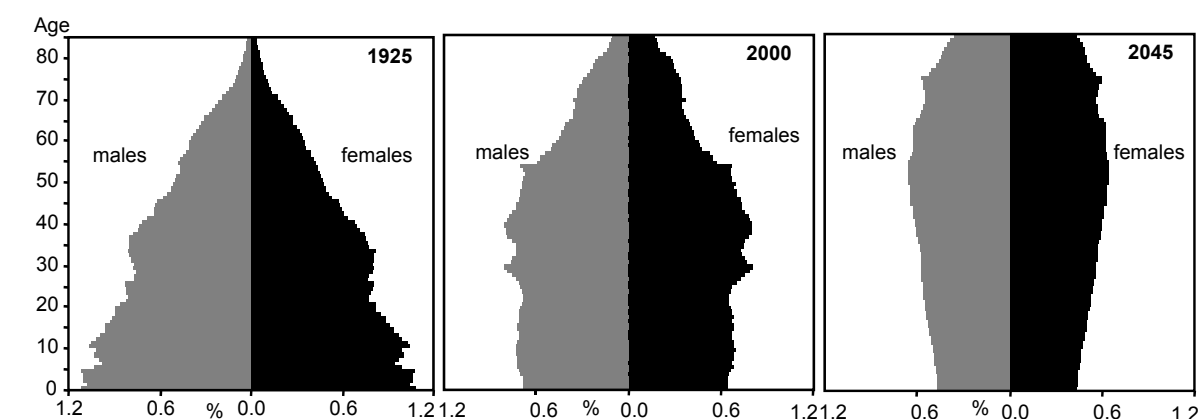
The (mis)use of demographic alarmism

Not all commentators agree with the 'demographic time-bomb' scenario that has been painted by the Productivity Commission, the Australian Federal Treasury, and other authorities both locally and globally. Neither do they concur with the 'demographic alarmism' that it has given rise to (Coory 2004; Ebrahim 2002; Gee 2002; WHO 2000). Some experts contend that increasing longevity is an indicator of social and economic progress, not regress (Coory 2004). Moreover, rather than heralding in an era of social decline (depicted graphically by the Australian Productivity Commission as a trajectory from 'pyramid

to coffin' (figure 1), some commentators suggest that increasing longevity is, in reality, heralding an era of 'social maturity' (Harper 2006) and moreover, one that is bringing a 'more balanced age structure to the population' (Coory 2004 p.581; see also Ebrahim 2002; Gee 2002; WHO 2000). Thus, in contradiction to the Productivity Commission's stance, the 'balanced age' view of Australia's developing population structure could be depicted more optimistically as a trajectory of 'pyramid to beehive' - as in fact has also been noted in the Productivity Commission's report (Productivity Commission 2005 p. xiv).

Experts have also challenged the dire predictions of skyrocketing costs in health care and the projected threat that population ageing is ostensibly posing to existing and future health and social care services - and indeed to future generations as implied by the use of the term 'intergenerational' in the title of Treasury's *Intergenerational Reports* (Howe and Healy 2005; Coory 2004; Healy 2004; Evans 2002; Richardson and Robertson 1999). Citing the contradictory findings of numerous international studies, critics contend that while population ageing is associated with an increase in health costs, the costs involved are likely to be small and wholly manageable. Furthermore, the projections do not take into account other variables that might be (and are) influencing cost increases. For example, there is considerable scope to suggest that the rising costs of pharmaceuticals are being driven more by the pharmaceutical industry and the prescribing behaviours of doctors, rather than population ageing (Coory 2004; Healy 2004; Evans 2002; Gee 2002).

Figure 1: From pyramid to coffin - Changing age structure of the Australian population, 1925-2045



Source: Productivity Commission. 2005. *Economic implications of an ageing Australia*. Research report: Canberra, Australia p.xiv

Arguably the most troubling feature of the demographic alarmism being promulgated nationally and internationally is its proponents' misleading and fallacious portrayal of the aged as 'sick and frail non-contributors to society - as 'users' of social programs who give nothing in return' (Gee 2002 p.750). As Gee (2002) and others (Coory 2004; Ebrahim 2002; Evans 2002) contend, this spurious portrayal of older people is nothing short of 'demographic scapegoating', that is, an insidious process of 'blaming a social ill/problem on demographic phenomena' (Gee 2002 p.750; see also Binstock and Post 1991).

As can be readily demonstrated, older people are significant contributors to society (Gill 2006; Healy 2004; Ranzijn et al 2002; WHO 2000) and importantly, to the maintenance of sustainable and healthy communities (Warburton and McLaughlin 2005). For example, the third annual HSBC *Future of Retirement* study (conducted with Oxford University's Oxford Institute of Ageing and described as one of the largest studies of its kind in the world) has shown that 'far from being a drain on society, older people are huge contributors to the economic and cultural wellbeing of their nations' (HSBC 2007). The study, in which 21,000 people from 21 countries and territories were surveyed, revealed that, contrary to popular misconception, older people contribute billions of dollars to their nation's economies through taxation, volunteer work and the provision of care for family members (including other older relatives or spouses) (HSBC 2007).

In the United States of America alone, HSBC calculated that people between the ages of 60 and 79 years contributed almost \$US38 billion in tax payments and volunteer work, over and above the significant support they also give to family care, which was not calculated (HSBC 2007). The same study revealed that, in the United Kingdom (UK), older people between the ages of 60 and 80 years boosted the UK economy by an estimated £59 billion (HSBC 2007).

A decade ago in Australia, the gross value of all volunteering by retired people was conservatively

assessed as being around \$41 billion, an amount that was equivalent to government spending on aged care at the time (Healy 2004 p.ix). More recently, a study of the productive contributions of people between the ages of 65-101 years (mean age 81.4 years) in the State of South Australia conservatively estimated the value of their contributions as being between \$4.9 and \$8.1 billion (excluding activities not associated with goods and services), compared with the costs of their actual health and aged care, calculated to be just \$1.8 billion (Ranzijn et al 2002).

Prejudice, politics and policies

There is an emerging consensus that the affordability of health and social services will be determined not by demographic factors as such, but rather by prejudice, politics and social organisation (Howe and Healy 2005; Ebrahim 2002; Evans 2002). Citing the popularised misconceptions and misapprehensions about population ageing that are being embedded in the public mind and how a broad acceptance of demographic projections is fuelling 'demographic crisis thinking' about ageing, commentators are increasingly highlighting the 'lessons learned' in regard to *that* and *how* demography can be, and has been, used to reconstruct and redefine social problems in ways that fit a political agenda or, at least, that calibrate with current and popular ideological positions (Gee 2002 p. 750).

Michael Coory, a Queensland medical epidemiologist, contends that in Australia, 'population ageing has been used to justify current and popular ideological positions that favour the private sector and seek to contain public-sector activity' and, ipso facto, justify 'keeping a tight rein on public-sector health expenditure' (Coory 2004 p.583). He further asserts that the manner in which the debate is being conducted has served powerfully to detract 'from the need to evaluate the appropriateness and effectiveness of current patterns of care' and that, as a consequence, constructive public debate on ageing policy has been stifled, limiting the number and kind of policy options that might otherwise be considered (Coory 2004 p. 583). His views are shared by others also writing from the cultural context of Australia

(Howe and Healy 2005; Healy 2004; Richardson and Robertson 1999).

Other international bodies, such as the World Health Organisation (WHO) in collaboration with the Panel on Ageing and Social Development (including *HelpAge* International, the International Labour Organisation, the International Social Security Association and the World Bank) have likewise decried the 'crisisization' of population ageing trends and the spurious portrayal of older people as a perpetual 'costly burden on society' and a threat to the social wellbeing of future generations (WHO 2000). As noted previously, older people throughout the world (including those who are disadvantaged and poor) make a positive and substantial contribution to society in economic, social capital and cultural capital terms as paid and unpaid workers, as consumers, as volunteers, as contributors to the well being of their children and grandchildren (HSBC 2007; WHO 2000). What is particularly noteworthy about the contribution of older people to society however is not just its *magnitude*, but the extent to which it has been minimised and rendered invisible at all institutional levels in society.

The political motivations behind the constructed and institutionalised invisibility of the economic contributions made by older people are not to be underestimated. By keeping the work (both waged and unwaged) of older people 'invisible', it makes it easier for the substantial contributions that older people make to society to be viewed, in established economic terms, as being 'non-productive' and hence as 'counting for nothing' (Waring 1988). Rendering the contributions made by older people as 'counting for nothing' in turn, makes it easier for demographic alarmists not just to scapegoat older people but also to 'set them up' as opponents to succeeding generations in an intergenerational resource justice (equity) war and to scapegoat them in the news and other media (Hamilton 2007; Howe and Healy 2005).

Rendering the contributions and lives of older people as 'counting for nothing' can also make it easier to justify controversial public policies that include not only lawfully limiting health and medical care for

older people (Binstock and Post 1991; Callahan 1987) but also limiting and lawfully ending the lives of older people. A potent example of this can be found in a speech made by the former Australian Governor-General Bill Hayden, in which he advocated the legalisation of euthanasia in Australia. In his Arthur E. Mills Oration to the Royal Australasian College of Physicians, and using older people and aged care as a point of reference, Hayden reflected in defence of his stance:

... having had a full and satisfying lifetime, there is a point when the succeeding generations deserve to be disencumbered - to coin a clumsy word - of some unproductive burdens (Hayden 1995 p. 15).

The collective message of those challenging demographic alarmism is that demography is not necessarily destiny (Howe and Healy 2005), and that 'an ageing population does not necessarily means a sicker population burdening the country with large medical and social care costs' (Healy 2004 p. vii). Experts further argue that how well we as a nation respond to the population ageing of our society will depend not on demography, but on the extent to which we believe and accept the associated economic projections we are given and allow ourselves to be influenced by the prejudices and politics that have shaped them.

Implications for the nursing profession

Older people are amongst the most disadvantaged, marginalised and vulnerable groups of people in the world. As *HelpAge* International (2001) points out:

... all societies discriminate against people on grounds of age. Ageism and stereotyping influence attitudes, which in turn affect the way decisions are taken and resources are allocated at household, community, national and international levels (p.1).

Nurses have a fundamental role to play in promoting the health and social welfare of older people. This role includes not only providing direct care to older people, but also engaging in public policy debate on matters pertinent to the health and social care of older people and lobbying to secure an ethically just allocation of 'required health and social sector

resources' to this population (International Council of Nurses 2006). How well nurses succeed in this role however may rest more on politics and prejudices and the social institutions informed by these, than on ageing demographics.

In order to fulfil their advocacy role responsibly and effectively, nurses need to ensure they are well informed about the prejudices and politics framing the debate about population ageing, and the degree to which these can and do influence public policies and practices pertinent to the health and social care of older people. Nurses need also to think reflectively and critically about these issues and ensure that neither they nor their colleagues unwittingly accept or reinforce stereotypical beliefs and attitudes that are damaging to older people and that, if left unchallenged, stand to seriously disadvantage their welfare and wellbeing.

CONCLUSION

In this article it has been argued here that the 'demographic time-bomb' portrayal of population ageing in Australia is misleading and incorrect and stands to be harmfully prejudicial to the health and social welfare interests of older Australians and indeed society as a whole. It has been further argued that the nursing profession has a fundamental role to play in contributing to public policy debate and agenda setting for the health and social care of Australia's ageing population. Undertaking this role includes working to correct the false and misleading characterisations of population ageing and its socio-economic implications for Australia that have been promulgated by officials. It further includes nurses working in strategic partnership with professional nursing and community based organisations that advocate for or represent older people and actively engaging in and influencing debates concerning the health, welfare and wellbeing of older Australians.

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Barriers that inhibit nurses reporting suspected cases of child abuse and neglect

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KEY WORDS

child abuse and neglect, nurses, mandatory reporting, barriers

ABSTRACT

Objective

An integrative review of the literature was undertaken to identify barriers that inhibit nurses from reporting suspected cases of child abuse and neglect.

Primary Argument

Nurses in all states and territories of Australia except Western Australia are legally required to report suspicions of child abuse and neglect to relevant child protection services. Nurses often have first contact with abused children, yet they do not make the top five list of people who notify. There is limited evidence on what motivates the reporting process and it appears that while nurses are in a key position to report suspected cases of abuse, barriers may exist that hinder this process. These barriers must be identified and addressed.

Findings

Limited education on recognising signs and symptoms of abuse was found to be a major barrier to reporting. Other barriers include limited experience, poor documentation, low opinion of child protection services, fear of perceived consequences, and lack of emotional support for nurses through the reporting process.

Conclusion

Although nurses are mandatory notifiers; that is, they are required by law to report child abuse and neglect, education in this area is not compulsory. While most Australian nursing degrees provide some content on child abuse and neglect, this is not a legal requirement nor is the content standardised. The introduction of compulsory mandatory reporting education should be considered for all undergraduate and post graduate nurses. Further research is needed to evaluate the effects of mandatory reporting education on outcomes and to reduce identified barriers to reporting. This in turn may offer greater protection for children, the most vulnerable members of society.

INTRODUCTION

The World Health Organization (WHO) estimates 40 million children worldwide are victims of child abuse each year (WHO 2001). In 2006-2007 there were 58,563 substantiated investigations of child abuse in Australia (NCPC 2008). The physical, psychological and social costs of child abuse create an estimated financial burden on Australian health and criminal justice services of \$4.9 billion per year (Kids First Foundation 2003). Monetary figures however, do not adequately convey the humanitarian cost of child abuse.

There is no universal definition of child abuse but it is generally considered to be any abusive act that causes physical or emotional harm to a child, or if a child is harmed because of an adult's failure to provide adequate care (SA Government 2006). A child is defined as 'a person below 18' under the 'Convention of the Rights of the Child' (UNICEF undated). The effects of child abuse vary greatly and are difficult to determine. However it is known that abuse will have a deleterious effect on a child such as increased risk of depression; risk to the child's emotional and physical development increases the longer the abuse continues (WHO 2002).

Australia does not have national child protection legislation, with each state having different laws and requirements (NCPC 2007). Mandatory reporting legislation is in place in all states and territories except Western Australia, with reforms pending in Western Australia, which requires nurses either as professionals or as adults to report suspicions of child abuse (NCPC 2007).

Nurses working in accident and emergency departments often have first contact with abused children (Powell 1997) yet according to the Australian Bureau of Statistics (ABS) nurses do not make the top five list of people who notify, which includes police, school personnel, parents and guardians, friends and neighbors and other relatives (ABS 2003). There is limited evidence on what motivates the reporting process and it appears that while nurses are in a key position to report suspected cases of abuse, barriers may exist that hinder this process. This integrative review of the contemporary literature aims to identify potential barriers that inhibit nurses in Australia from reporting suspected incidences of child abuse and neglect. To the authors' knowledge this is the first literature review to address this issue.

Table 1: Summary of studies

Study	Aim	Sample	Method	Major Findings
Adams 2005 USA	Investigate how frequently advanced practice nurses assess and document risk factors for child abuse and neglect	118 advanced practice nurses One state (urban, rural and city)	Quantitative questionnaire (open/closed)	Deficit in knowledge and comprehension of key risk factors for possible child abuse and neglect
Blakely and Riberio 1997 Canada	Examine paediatric and community health nurses knowledge, attitudes, practices and degree of confidence concerning child sexual assault	164 nurses from one Canadian province	Quantitative questionnaire (open/closed)	Nurses require and request education to improve knowledge and skills for identifying, referring and treating victims of child sexual assault
Blaskett and Taylor 2003 Australia	Discover how professionals decide if a child has been abused and what influences their decision to report	452 professionals including 77 nurses 1 state Systematic random sample	Mixed design: Questionnaire and interviews	70% nurses had no training on child protection issues Concerned CPS response inadequate Feared reprisals from perpetrator
Crisp and Lister 2004 UK	Explore nurses' understanding of their professional role in relation to child protection	99 nurses Purposive sampling 1 city	Qualitative semi structured interviews	Conflict exists between identification of child abuse and providing support to families

Table 1: Summary of studies, continued...

Study	Aim	Sample	Method	Major Findings
Fagan 1998 UK	To identify accident and emergency nurses knowledge of child abuse and what they do when a possible victim presents to accident and emergency	14 accident and emergency nurses Purposive sampling	Qualitative questionnaire written in booklet	Current knowledge on policies, guidelines and legislation need addressing Further training and education needed
Feng and Levine 2005 Taiwan	Determine the experiences of Taiwanese nurses with new child abuse reporting laws	1400 nurses, four regions in Taiwan including rural urban and city Stratified quota sampling	Quantitative questionnaire	Most nurses never received education on child abuse and neglect nor reporting laws
Feng and Wu 2005 Taiwan	Identify factors associated with nurses intention to report child abuse and neglect in Taiwan	1362 nurse in four regions of Taiwan city, urban and rural Stratified quota sampling	Quantitative questionnaire	80% received no content on child abuse and neglect during undergraduate education Feeling uncertain about evidence of child abuse is a major barrier to reporting
Flaherty et al 2000 USA	Describe primary care providers experiences identifying and reporting suspected child abuse and variables affecting reporting behavior.	85 health care providers including 8 nurse practitioners	Quantitative questionnaire (open/closed)	Past negative experience with CPS inhibited reporting Education increases probability of care providers reporting
Lagerberg 2001 Sweden	Assess child health nurses identification and reporting of child abuse to CPS	1500 child health nurses Nationwide survey in 3000 centers	Quantitative questionnaire (closed with space for comments)	Awareness of child abuse low Personal interest important in identifying abuse Regular contact with CPS increased reporting
Lazenbatt and Freeman 2005 Northern Ireland	Assess primary care professionals ability to recognise and report child abuse and their education needs	419 professionals including 147 nurses Stratified sampling	Mixed design: Questionnaire (open/closed)	99% stated education on child abuse and neglect should be included as part of vocational education
Limandri and Tilden 1996 USA	Explore factors that influence clinician's decision to intervene in family violence	241 nurses surveyed Random selection 9 interviewed nurses purposive sampling	Mixed design: Intensive interviews	Content on family violence should be included in curriculum Need for clinical reasoning emphasised
Ling and Luker 2000 UK	Explore the meanings individual health visitors attach to events concerned with identifying children who may be at risk of child abuse	16 nurse health visitors	Qualitative interview and observation	Nurses used intuition when reporting cases of child abuse Nurses see experience as aiding intuition
Nayda 2002 Australia	Gain insight into experiences of registered nurses working with children	10 community health nurses Purposive sampling	Qualitative structured interviews	Nurses based decision to report on; intervention likely to be undertaken by CPS, consequences, moral judgment and type of abuse
Nayda 2004 Australia	Expose influences on nurses communications about reporting suspected child abuse	950 accident and emergency records in two venues 11 paediatric and accident and emergency nurses interviewed from 1 venue Purposive sampling	Qualitative semi structured interviews Vignettes Researchers Journal Entries	Lack of documentation about suspected child abuse and neglect Accident and emergency nurses deferred responsibility of reporting to paediatric nurse Nurses feared being wrong

Table 1: Summary of studies, continued...

Study	Aim	Sample	Method	Major Findings
Paavilainen et al 2002a Finland	Examine whether nurses and doctors at a university hospital needed supplementary training in identification on child physical abuse.	317 nurses and doctors 1 hospital	Quantitative questionnaire (closed/open)	60% needed supplementary training in identifying child abuse Those with experience caring for abuse children felt they needed more training more often Basic education had not addressed child abuse and neglect
Paavilainen et al 2002b Finland	Determine how nurses and physicians rated their ability to identify child maltreatment	317 nurses and physicians 1 university hospital	Quantitative questionnaire (open/closed)	40% estimated they had never cared for an abused child 75% believed they would be able to identify child maltreatment case Distinct physical signs of abuse recognised More education needed
Smith 2006 USA	Examine knowledge and understanding of child maltreatment held by students who will be future mandated reporters	332 university students across disciplines (1 university) included 10 nurses	Quantitative questionnaire (closed and contained vignettes)	Difficult to define emotional abuse and neglect Would report if certain of abuse Training may need to focus on less clear aspects of abuse rather than what is easily recognisable

CPS = child protection services

METHOD

A comprehensive search of electronic databases CINAHL, MEDLINE, PsycINFO, Proquest and Journals@ OVID full text was conducted using the keywords nurse/nursing, child abuse and neglect, barriers, education, mandatory reporting, child maltreatment, and family violence. Included in the review were primary studies published in English from 1996-2007, those with more than one nurse involved in the sample population, and those that discussed barriers to reporting. The bibliographic details of the 13 articles initially retrieved yielded four more articles. Overall, seventeen primary research articles were retrieved including five qualitative, nine quantitative and three mixed design. A summary of the studies is provided in table 1.

Summary and critique of the literature

The research originated from several different countries including the United States of America, the United Kingdom, Australia, Finland, Sweden, Taiwan and Canada. Sample size varied from 10 to 1500 participants depending on the chosen method and

area of focus. The use of questionnaires and self reported data by ten of the fourteen studies may have introduced bias by allowing respondents to report what is socially acceptable, not necessarily how they would react in a real situation (Roberts and Taylor 2002). Questionnaire return rates varied from 36% to 80%, at times well below the return rate of 80% recommended to provide an accurate representative sample (Gerrish and Lacey 2006). Seven of the included studies used questionnaires tested by other researchers or completed a pilot study, thus increasing the validity and reliability of the questionnaire (Gerrish and Lacey 2006).

The authors of this study acknowledge that large variations in research design, sample size and selection make it difficult to compare results and may limit generalisability of findings (Roberts and Taylor 2002). However the authors agree with Tomison (2000 p.1), who advocates the adoption of 'methodological flexibility' to provide a better understanding of child abuse as a social phenomenon in order to continue significant shifts in Australian child protection practice

based on overseas research. The importance of this issue cannot be underestimated and any research that aims to improve the outcomes for children at risk is seen by the authors of this study as a positive contribution. However there is a clear need to ensure that future research is both rigorous and valid to be certain practice is based on the best available evidence.

FINDINGS

A thematic analysis of the literature was conducted to provide a framework for the findings and critical analysis of the studies was undertaken using guidelines from Roberts and Taylor (2002). Three themes emerged that allow a portrayal of nurses' experiences in relation to recognising and reporting suspected cases of child abuse:

- 1) factors influencing identification of child abuse and neglect
- 2) the role of experience in recognising and reporting child abuse and neglect, and
- 3) factors that deter nurses from reporting suspected child abuse and neglect.

1) Factors influencing identification of child abuse and neglect

Nurses repeatedly reported current levels of training about child abuse and neglect as inadequate and requested more education on signs and symptoms of abuse and techniques to solicit information whilst maintaining therapeutic relationships with families (Lazenbatt and Freeman 2006; Feng and Levine 2005; Feng and Wu 2005; Blaskett and Taylor 2003; Paavilainen et al 2002a; Paavilainen et al 2002b; Blakeley and Riberio 1997; Fagan 1998; Limandri and Tilden 1996). Several studies found nurses had limited knowledge about child abuse in general, particularly emotional abuse and neglect (Smith 2006; Feng and Levine 2005; Crisp and Lister 2004; Nayda 2002; Blakeley and Riberio 1997).

Paavilainen et al (2002b) found health care staff had sound theoretical knowledge on child maltreatment; however they were more likely to list distinctive physical signs like multiple fractures and bruises

as indicators of abuse. This finding was supported by several studies who found nurses frequently had trouble recognising child maltreatment unless there were prominent physical signs (Smith 2006; Paavilainen et al 2002a; Blakeley and Riberio 1997; Fagan 1998; Limandri and Tilden 1996). Risk factors for abuse and neglect were also often unknown and nurses felt they had limited ability to gain information from children if abuse was suspected in the absence of physical signs (Adams 2005; Blakeley and Riberio 1997). Nurses were also less likely to report abuse without evidence or if they were uncertain abuse had occurred (Feng and Levine 2005; Feng and Wu 2005; Nayda 2004; Flaherty et al 2000; Limandri and Tilden 1996).

Recent education on child abuse was found to improve reporting rates, and recent nursing undergraduate courses were more likely to have content related to child abuse (Flaherty et al 2000; Limandri and Tilden 1996). While Blakeley and Riberio (1997) found no correlation between nurses' knowledge of child sexual abuse and the amount of time spent on the topic in undergraduate education, they concluded that nurses who completed further education on child sexual abuse had additional knowledge. Evidence suggests nurses with a personal interest in child abuse were more likely to seek additional education and nurses who worked with abused children believed they needed more training more often (Paavilainen et al 2002a; Lagerberg 2001).

2) The role of experience in recognizing and reporting child abuse and neglect

Numerous studies found nurses with education and experience dealing with child abuse and neglect had greater skills in recognising and reporting child abuse (Adams 2005; Nayda 2002; Paavilainen et al 2002b; Fagan 1998). Several studies found nurses use their intuition when reporting abuse, but believe previous experience assisted this intuition and only prompted them to look for evidence once their suspicions had been aroused (Ling and Luker 2000; Fagan 1998). Experienced nurses also reported difficulties recognising and reporting cases of child abuse and neglect, citing limited contact with abused children

as the primary reason (Adams 2005; Nayda 2002; Paavilainen et al 2002b; Fagan 1998).

Nurses from particular fields had different perceptions of their role in reporting child abuse. Nurses working in community settings in the UK (n=99) felt divided between reporting what they saw during routine health services and the pressure to actively seek out signs of abuse and neglect (Crisp and Lister 2004). In Australia, community health nurses (n=10) felt it more beneficial to spend time supporting families and implementing strategies to assist them than in reporting abuse (Nayda 2002), while nurses working in accident and emergency departments (n=11) believed they did not spend enough time with clients, stating doctors and paediatric nurses had more experience and were better able to report abuse (Nayda 2004).

Community child and youth health nurses with past experience in the clinical paediatric setting expressed difficulty discerning willful neglect from a failure to meet middle class standards (Nayda 2002). Cases of emotional abuse and neglect were frequently tolerated by these nurses and seen as a social problem that was impossible to change (Nayda 2002). Accident and emergency nurses were reluctant to report people in lower socio-economic areas who they believed were more likely to be accused of abuse (Nayda 2004).

A multidisciplinary study that focused on students who would be mandated reporters in their future professions found they were unlikely to report if they did not believe an act was abusive. However the author recognised it was unknown if these beliefs would match students' actions once in the workforce. Students were also more likely to recognise and report abuse around their area of study. For example, nursing students recognised health issues whereas child development students recognised emotional abuse more easily (Smith 2006).

3) Factors that deter nurses from reporting suspected child abuse and neglect

A commonly reported barrier to reporting was a nurse's fear for themselves and their families

(Lazenbatt and Fremann 2006; Nayda 2004; Blaskett and Taylor 2003; Nayda 2002; Paavilainen et al 2002b). Reporting was viewed as especially difficult in small communities where it could be deduced who made the report and where there was overlapping of personal and professional lives (Limandri and Tilden 1996). Further barriers reported included fear of pushing the family away from health services, the consequence this could have for the child, and feeling a sense of betraying the family (Crisp and Lister 2004; Nayda 2002; Flaherty et al 2000; Limandri and Tilden 1996).

Past negative experiences with child protection services (CPS) made some nurses hesitant to report (Feng and Levine 2005; Feng and Wu 2005; Blaskett and Taylor 2003; Flaherty et al 2000; Limandri and Tilden 1996). Nurses from several studies believed CPS were overburdened and that interventions were not always beneficial to the child (Blaskett and Taylor 2003; Nayda 2002; Lagerberg 2001; Flaherty et al 2000; Limandri and Tilden 1996).

Lack of documentation was also reported as a barrier to reporting. Limandri and Tilden (1996) concluded nurses were more comfortable reporting if there was documentation of past patterns of abuse, while Nayda (2002) found paediatric nurses documented their concerns about abuse 'considerably more frequently' than accident and emergency nurses. Hospital records contained limited documentation of either suspected or obvious abuse written by accident and emergency nurses, and some nurses interviewed stated they considered this the role of doctors (Nayda 2002). This lack of documentation does not allow alerts to be raised if a child is a frequent attendant to accident and emergency departments and may therefore impede future reporting.

DISCUSSION

This review indicates many nurses have limited knowledge of child abuse and neglect and require education on mandatory reporting and child protection services. Nurses also need support with the emotional side of reporting or they may be reluctant to report in the future.

Many universities in Australia include content on child abuse and neglect in nursing education; however this is not required by relevant regulatory bodies, nor is the content standardised. It has been asserted that laws on mandatory reporting are meaningless without education to support them (Reinger et al 1995). Yet there may be many practicing nurses who have never received education about child abuse and neglect, nor their legal obligations as mandatory reporters (Nayda 2005).

To reduce existing barriers to reporting suspicions of child abuse and neglect, mandatory reporting education should be considered for all nurses in Australia at both an undergraduate and postgraduate level. Ideally, mandatory reporting policy could be included as a nursing competency. The proposed nationalisation of nursing regulation in Australia in 2010 provides an ideal opportunity to regulate and standardise mandatory reporting education for nurses nationally.

Little is known about the effect of mandatory reporting on the prevention of child abuse and neglect (WHO and ISPCAN 2006). There is a need for further research in this area to determine if compulsory mandatory reporting education would affect outcomes. For example, nurses could be allocated an anonymous reporting code that identifies if the reporter has undergone education, thus enabling a comparison of reporting practices. A formal evaluation of this process would provide valuable data on which to base future recommendations for practice and research.

CONCLUSION

Nurses often have first contact with abused children and are legally bound to notify child protection services of any suspicions of child abuse or neglect. However education on mandatory reporting is not compulsory. Evidence suggests there are many barriers to reporting child abuse and neglect including limited education and experience, poor documentation, low opinion of child protection services, and fear of perceived consequences. Further research is needed to evaluate the effects

of mandatory reporting education on outcomes and to reduce identified barriers to reporting. This in turn may offer greater protection for children, the most vulnerable members of society.

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Surviving survival: nursing care at Bergen-Belsen 1945

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KEY WORDS

history, holocaust, Bergen-Belsen

ABSTRACT

Objective

The purpose of this paper was to explore the previously little known contribution of nursing care at the liberation of Bergen-Belsen concentration camp.

Setting

Bergen-Belsen concentration camp

Primary argument

The liberation of Bergen-Belsen concentration camp became a widespread symbol of suffering when it was liberated by British forces. Films of the liberation and the appalling condition of the survivors were widely disseminated in the western Allied countries. Despite the earlier liberation of Majdanek and Auschwitz in Poland, Bergen-Belsen became fixed in the minds of the British public as an icon of the holocaust. Due to the catastrophic conditions found in the camp, doctors, nurses, medical students and aid organisations were quickly drafted into the relief effort. The work of doctors has been well publicised, however little has appeared that details the contribution of nurses. The diaries and letters of Muriel Knox Dougherty, the Australian nurse who became chief matron of the camp's nursing services have been published only in recent years. No other material has been made public; consequently the work of the nurses has yet to be fully detailed.

Conclusion

This paper presents the reflections and recollections of several nurses who served in the liberation nursing services. Primary sources for this paper include relevant literature, archival material including correspondence, diaries, testimonies and personal correspondence. The conclusion formed on the basis of these documents is that the work of the nurses during the liberation period was life-saving for their patients and life-changing for the nurses.

INTRODUCTION

The purpose of this paper is to explore the little known contribution of nurses following the liberation of Bergen-Belsen. This exploration brings to light the heroism and humanity of the nurses under horrifying circumstances. Primary sources of material have been gathered from archives and include letters, diaries, and eyewitness accounts. Secondary sources include literature published about the camp, the findings of physicians, and eyewitness accounts incorporated into the literature.

METHOD

A literature review was conducted. While considerable literature has explored the history of Bergen-Belsen and conditions at the time of liberation, few sources make mention of nurses involved in the rescue efforts. The most detailed literature related to nursing was found in the publication of the diary and letters of Muriel Knox Doherty who was appointed chief matron in the camp at that time. Pertinent Australian archives such as the Australian War Memorial, Sydney Jewish Museum and College of Nursing were contacted but no further material was located. The Royal Australian Nursing Corps was also contacted. A number of nurses responded who knew of colleagues who had been at Bergen-Belsen but who had subsequently died. A brief article appeared in Australian nursing journals asking for any nurse who had information on the topic to contact the author. This resulted in one nurse in New Zealand who had been at the liberation and email contact was established.

As sources in Australia failed to provide any further information, overseas archives were contacted. These included Yad Vashem in Israel, the United States Holocaust Memorial Museum and Archive and a number of archives in the United Kingdom. Those that contained information included the Imperial War Museum, the British Red Cross, St. John's Ambulance, the Society of Friends, and the Wellcome Institute. Having established that several nurses had lodged documents with these institutions, it was necessary to travel to the United Kingdom to view the materials.

A fundamental difficulty was locating nurses who might agree to speak about their experiences in Bergen-Belsen. One example is the account of Ethel Bardsley, a nurse from Queen Alexandra hospital in the United Kingdom who, like many women, decided to enter nursing because Britain was at war. As a state registered nurse, Ethel Bardsley volunteered in July 1944 and was posted to military hospitals, first in Britain and later, in Belgium. On 18 May 1945, a month after the liberation of Bergen-Belsen, she was posted to that camp. Like many others, she was horrified at the condition of the survivors and refused to discuss what she had seen with her family (BBC 2004). Similar to many survivors, nursing and medical personnel may have chosen never to speak about their experiences, finding their recollections too painful to share. The paradox of attempting to learn more about caring practices following the liberation and causing distress to any nurse who could recall the experience was a serious ethical dilemma. It was made clear that any nurse who could be located would not be forced to answer any questions and that interviews could be ended at any time to avoid distress. The fragility of memory after so many years was also a concern however only one nurse was located and she was amenable to the project's goals and willing to discuss her experiences.

FINDINGS AND DISCUSSION

History of Bergen-Belsen

Located south of Hamburg near the town of Celle, Bergen-Belsen became infamous in the immediate post World War Two era as an icon of human suffering. The camp was created in 1940 as a prisoner of war (POW) camp. It was transformed in 1942 to a concentration camp under SS command (SS stands for Schutzstaffel meaning special security personnel) and was intended to be a detention camp for prisoners who held foreign passports and who could be exchanged for German citizens held in Allied internment camps. In March 1944, the camp was designated a 'recovery camp' to which prisoners from other concentration camps who were too sick to work were transported. In 1945 with Russian troops advancing, prisoners were evacuated from other

concentration camps and thousands of prisoners arrived at Bergen-Belsen which had no capacity to take such large numbers of people. Compounding the problem, the camp was in the war zone and in close proximity to Allied bombardment. This catastrophic situation worsened when typhus broke out in February 1945 killing many of the sick and weakened prisoners. Anne Frank and her sister Margot both died during this epidemic. At least 50,000 people died in Bergen-Belsen before liberation Bardgett and Cesarani 2006; Walker 1945).

Liberation of Bergen-Belsen

In the last days before liberation, up to 600 people were dying each day from hunger and sickness. The Germans alleged that Allied bombs destroyed a water pump and therefore many of the inmates were dying of thirst, having been without any water for six days. Facilities existed to bake 60,000 loaves of bread daily, but only 10,000 loaves a day were provided for inmates, the rest was sent to feed German soldiers. British forces discovered that inmates had been without any food for six days and that no medical supplies existed in the camp (Hardman, 1958).

On 15 April 1945 the camp was surrendered to British forces. As a result, Bergen-Belsen became the first camp to become widely known to the public despite the earlier liberation of camps in Poland. When British forces entered the camp initially they saw nothing to cause alarm but deeper in the camp they were confronted with an estimated 10,000 unburied naked bodies. The stench was so horrendous that it could be smelled up to ten miles from the camp (Introduction to Bergen Belsen, 2002).

Major medical relief efforts began immediately. A body of literature has served as a testament to the work of physicians and medical students but little reference has been made to any nursing contribution. Nevertheless, a number of nurses were actively involved in the physical and mental care and rehabilitation of the surviving prisoners. Over sixty years have passed since the liberation but the importance of the nursing contribution has not diminished. One possible explanation for why so little attention has been paid to the nursing

contribution revolves around the existing gender issues of that era.

Gender: men and women at Bergen-Belsen

Reilly (1998) has published an extensive study of Bergen-Belsen including its liberation. She purports that while one might presume traditional male and female roles would have broken down during the war, this was not the case. The nurses in the British forces were officers but did not receive officers' pay. Army officials decided that conditions at Camp I (the designation for the area of the camp where the dead bodies were found and a typhus epidemic was raging) were so awful that women were not permitted entry. All of the rescue personnel who entered Camp I concur that the situation remains a nightmarish memory.

Reilly (1998) maintains that the decision was a reflection of the prevailing paternalistic attitude of the time, to protect women from the horrors of Camp I. Strongest in British society, this attitude seemed to be directly linked to the social class that produced officers. Nevertheless, Reilly concludes that most of the women were probably grateful not to have to work in Camp I (Reilly 1998). Despite her conclusion, a paradox has emerged. Shortly after the liberation, a team of British Red Cross workers led by Sisters Silver-Jones and Beardwell arrived in the camp. They were horrified by the conditions, yet the male medical students who were already working in the camp, resented their horror, since the nurses had not seen Camp I.

It is likely that most of the women did not enter Camp I and it is doubtful if it can be ascertained exactly how many nurses may have entered Camp I due to conflicting findings. British nurse Muriel Blackman's pass to enter Camp I is dated 1 May 1945, indicating that entry was possible (Blackman 2000). Lyn Brown, another British nurse who was part of the team from St. John's Ambulance, took a number of photographs including the burning of the camp (Brown undated) however it can be assumed that for the most part, women did not enter Camp I. Dr Vella's recollections note that initially there were thirty-three nurses in Camp I and fifty in Camp II on

17 April 1945, two days post-liberation (Vella 1984). This suggests nurses were within Camp I however a precise figure cannot be confirmed.

The resentment of the male medical students however underscores the paradoxical attitude highlighted by Reilly. On the one hand, the male officers felt obliged to 'protect' the women from the horror of the camp, while the male students resented the protection given to them.

In her ensuing discussion, Reilly concludes that in post liberation Belsen, women's roles were primarily as cleaners, carers and dance partners. While it is apparent that a considerable amount of sanitation was required in the camp, both men and women would have been required to take part in these activities. It appears that the role of carer is not well understood in this analysis. The classification of caring with other activities that carry little value, denigrates the importance of care. This may be due to a failure to understand that care and caring practices, rather than curing, are the heart and soul of nursing and it is these behaviours and practices that are valued by recipients of care.

As a historian, Reilly and others share a common characteristic with nurses. Anne-Marie Rafferty (2005) points out that both historians and nurses enter into an intimate space of the 'other' in an attempt to better understand his or her world. While historians use evidence from the past through archival material and interviews, nurses protect and defend a patient with whom they are engaged in an intimate way. Thus each brings to light an understanding of the past through different professional guidelines and codes of practice, both of which combine to provide a broad picture of events at Bergen-Belsen.

Immediate medical needs of the survivors: early days post liberation

Eyewitness accounts agree that approximately 60,000 people were found at liberation, 30,000 of whom had arrived within the previous week. Prior to liberation, it is estimated that 37,000 people died at Bergen-Belsen. Camp I contained 45,000 people who were barely alive together with 10,000 unburied

bodies. The 15,000 people found in Camp II were in better condition, although they were starving and suffering from dysentery (National Army Museum 2006). Typhus, tuberculosis, and other infectious diseases were so rampant that 23,000 of the 28,000 women and 9,000 of the 12,000 men in the camp required immediate hospitalisation (Reilly 1998). So severe was their condition that despite efforts, many died and many of the doctors and nurses contracted illness from their patients. Hygiene was appalling and inmates had received so little food that evidence of cannibalism was noted at the initial liberation (Lavsky 2002). Aid was desperately needed and accepted from all sources.

Medical Students

The medical students who were drafted into working in the camp found it difficult to identify the inmates as human beings; it was beyond their scope of understanding. Dr Eric Trimmer recalled that as a final year student at Westminster Hospital Medical School, he saw a notice that students were needed to treat starvation cases in Holland. He learned after volunteering that he would be sent to Bergen-Belsen. No briefing was provided and Dr Trimmer described his emotions of fear, loathing and compassion at his first sight of the newly liberated prisoners. So shocked was he at the condition of the prisoners that he was incapable of any concerted action, working more by instinct (Trimmer 1984).

Andrew Matthews, a medical student from St Mary's Hospital in London, also volunteered. Unlike Dr Trimmer, he knew he would be sent to Bergen-Belsen but felt completely unprepared. He described his reactions as alternating between inadequacy and despair (Matthews 1991). With little to no preparation for work in a concentration camp, it is not surprising that few could come to terms with the victims as human beings. To the students, they were "a herd of animals" (Reilly 1998 p.41). One can speculate that perhaps if there the medical students had been prepared for their work at Bergen-Belsen, their attitudes may have been different. The de-personalisation is often apparent in the medical literature; survivors' conditions are described as

interesting case studies, such as in Vella (1984) and Collins and MacClancy (1946). Conversely, many survivors have expressed the opinion that nothing could prepare anyone for the sights and smells that existed at Bergen-Belsen.

Considerable literature has been devoted to the horrific conditions by a number of authors including Reilly (1998) and Lavsky (2002), supported by eyewitness reports from the British Army, medical units and survivors. All reports mention nurses who were involved in rescue efforts in the initial days.

Nurses: the contribution of British and Commonwealth nations

The nurses who were involved during the liberation period were British or came from British Commonwealth countries and represented a variety of organisations, including from the Queen Alexandra's Imperial Military Nursing Service and the British Red Cross. Other personnel were contributed by the Friends Relief Society. Particular mention has been made of Sisters Silver-Jones and Beardwell of the British Red Cross who cared for the first 600 patients transferred to the hospital. Despite Reilly's claim that nurses were little more than cleaners, Vella (1984) a medical doctor, observed that the nurses were in close contact with the survivors and that their willingness and initiative merited the highest praise. The considerable skill and attitude of the nurses was instrumental to the mental and physical recovery of their patients.

Lyn Brown was one of the first nursing personnel to enter Belsen. Her recollections as published in *The Helensburgh Advertiser* United Kingdom and reprinted on 29 April 1966 stated that:

What she saw there made her change her mind about not being able to hate anyone. Despite all the atrocities revealed in the press so far she thinks they have not been emphasised strongly enough (Brown 1966).

Lyn Brown described in detail 'the human laundry' where survivors were initially washed and disinfected against the prevailing infectious diseases and epidemics of lice and vermin. The work was gruesome

and could be referred to as 'horror nursing' ... "no one could have visualised anything like Belsen" (Brown 1966).

Brown took a number of photographs which are held by the St. John's Ambulance. Among them are: scenes of the dead and dying outside huts; 'the human laundry'; survivors searching the debris for food; and the burning of the camp (Brown undated).

Local nurses were also drafted into providing immediate aid at the camp. Included among them were some of the inmates who were capable of providing assistance.

The most comprehensive and only work written from a nurse's perspective rather than a historian's are the letters and diary of Muriel Knox Doherty. Doherty was an Australian nurse who kept copious notes on her experiences. Supplementing her account are letters written by nurses while on duty at Bergen-Belsen that are held by several archives in the United Kingdom.

Nurses were in the hospital area from the early days, caring for their patients under difficult conditions, each in charge of a large number of patients with 500 a day being transferred into their care. The difficulties were enormous; eighty per cent of the patients suffered diarrhoea with only two bedpans per block. Food fights broke out at meal times; hoarding was universal and deaths numerous with several dead found in each bed every day. The nurses approached their tasks with skill and cheerfulness and refused to be disgusted by the sights and smells facing them. Their ability to rise to the challenge is now acknowledged as a factor in the recovery of the patients, as evidenced by multiple letters exchanged between nurses and their patients after the war, several of which are duplicated in a subsequent section of this paper.

Foreign personnel

The acute shortage of medical and nursing staff necessitated the use of 200 local nurses. The decision had a negative effect on the psychological wellbeing of both survivors and other staff. Most of the inmates were terrified of the German nurses. Dr Hadassah

(Bimko) Rosensaft, an inmate doctor who had been caring for her fellow inmates before liberation and continued doing so afterward, remarked on this situation.

We were obliged to take in German military doctors and nurses. They were in Wehrmacht uniforms, not SS, but the psychological effect was bad enough on me - imagine what it was like on the severely ill. I remember saying to Colonel Johnston: "Johnny, I just can't take these people" (Reilly 1998 p.46).

In the initial days, Reilly noted that the German nurses were professional, motivated and helped break down language barriers, in particular explaining German drugs (Reilly 1998). Doherty however, as chief matron, had a different view. When Doherty assessed the bedside nursing of the German nurses she considered it to be a very poor standard and considered that the nurses were of little help in providing care for the newly liberated patients (Doherty 2000).

Despite the enormous difficulties, the British nurses under her direction implicitly understood the dehumanisation that their patients had undergone. The nurses and other medical staff endeavoured to deliver care with dignity and respect for the survivors. The following recollections from British nurses help form a picture of their work at the camp.

Nursing recollections

Terence McQuillin

Terence McQuillin was serving with the 67th British General Hospital in April 1945 when he was selected for a month's duty at Belsen. Told that he would be given "exceptional opportunities to alleviate suffering" his unit was assigned to the Swedish International Hospital Rehabilitation Unit to examine, process and clean prisoners to be sent to Sweden for rehabilitation. McQuillin noted that as staff were to be dressed in clothing similar to that worn by the Germans, it was imperative they wear the insignia of medical assistance on their caps.

McQuillin noted: "I have never been so proud or affected before or since as being instantly accepted as a trusted friend from the recognition of our cap badge" (McQuillan 1995).

... the sheer number of patients requiring attention, many were totally emaciated; the techniques of handling and caring for them compounded with language difficulty and other unique problems had no precedence and guidance was not available. We and our charges had to learn by our mistakes and this must have caused or hastened loss of lives (McQuillan 1995).

There were special problems ... with the real risk of hysteria when they could hear the showers operating behind canvas walls; their German guards had previously warned them that they would be killed in acid showers (McQuillan 1995).

McQuillin's most vivid memories concerned the first woman he had been asked to dry after disinfection.

I was horrified to see and sense that her flesh was parting from her sternum on to the towel. I yelled, the Swedish doctor was nearby and together we finished drying her and applied a wound dressing and encased her in a warmed blanket. I was told that she died later. Other patients died on us either in relief at being genuinely medicated for recovery or as a continuing effect of earlier deprivations, but none affected me as much as the trauma of ignorantly applying inadequate experience on the first patients (McQuillan 1995).

As a result of his work at Bergen-Belsen, McQuillin developed infective hepatitis and was airlifted back to the UK ending his service.

Joan Rudman

Sister Joan Rudman wrote home that the size of the camp was enormous, 25 square miles. She also described the terrible conditions of the patients, referring to them as mostly being Jewish or political prisoners. She was appalled at 'the human laundry':

...in which naked patients were taken to a room, scrubbed on tables, hair shorn if necessary, and deloused due to typhus. The German nurses were put to work at this task. These poor things have been so humiliated the last few years, they thought nothing of this. Once the process is completed, they

are taken to the hospital and placed into the care of the nurses and doctors again (Rudman 1995).

Several of the nurses make particular mention of the German personnel used in the rescue efforts and the problems that resulted from the attempt to incorporate them into the overall relief efforts. It appears their practical aid may have been overshadowed by the problems created which supports Doherty's assessment. Among the most significant of the issues related to the use of German personnel was poor professional education and preparation. This was further compounded by the patients' fear of these nurses which led to a climate of animosity that existed between patients and the German staff.

Sister Rudman's most difficult task was feeding her patients. This was tremendously challenging as diets had to be carefully monitored. Patients demanded more food than they could be safely given and subsequently many were found scrounging near garbage bins. These scenes profoundly upset Sister Rudman. Equally distressing, was the condition of the children.

The children's ward would break your heart, tiny little scraps in a bed with two big eyes starving out of a sunken face and little babies just like birds. I want to cry every time I go near the place to think that innocent little children should have suffered so much (Rudman 1995).

Muriel Blackman

Sister Muriel Blackman kept a pocket diary of her time at Bergen-Belsen. She arrived on April 22 and began duty following morning.

Her diary entry for 27 April 1945 states:

In afternoon Polish nurse refused food to Hungarian patient and when complaint made, slapped patient's face. Arranged for removal of Polish nurse from those rooms ... "The cry of 'you are an angel' makes one proud to be British and points out responsibility we have as a nation (Blackman 1945).

Sister Blackman noted in her diary that she went to Camp I on May 18, however she had a pass to

enter Camp I from May 1, a copy of which is held at the Imperial War Museum. The importance of her nursing care to the survivors is demonstrated by the postcards sent to her more than a year later. For example:

(undated note) Dear Miss Muriel

I am going tomorrow to Sweden. I didn't expect that it will happen so quickly and though I have not time enough to shake hands with you.

I have not enough words in English to tell you what I wanted you to say but in any case I must tell you, that I am really very glad that I have met you. You helped me in so many things and have thanks for all you did for me. I am sure you are one of these few people who really understood me and had commposition (sic) with me. I hope to see you certainly in England as soon as possible.

(June 25, 1945) Dear Miss Muriel

I thank you very, very much for your kindness and all your help during the first difficult time. I owe you a great deal, I was depending you during my illness, do you know that? Always waiting for you to pop in and say good-day to us (Blackman 2000).

Lyn Brown

Lyn Brown was in Belgium at the time of the liberation and was sent immediately to Bergen-Belsen. She was one of the first to enter the camp and cared for survivors until the camp was burned (Brown undated).

Lyn Brown penned a thinly disguised autobiographical account titled: Belle's life that was found in her file (Brown 1966). In it, she describes Belle's entry into Bergen-Belsen. Among the incidents she recalls being so busy with one's own work that one could scarcely be concerned with what happened elsewhere or to go 'sightseeing' although she was filmed (perhaps for newsreels at this time) on 30 May 1945 showing some of the cases to a German nurse. She believed this film was also to be shown to the German public.

Belle was back at the first anniversary of the liberation and describes the huge mounds of grass around mass graves and the memorials that had subsequently

been placed by various groups. Brown supplemented this with her photographs as a way of ensuring both a written and visual record of all she had witnessed (Brown 1966).

Phyllis Jason Smith

Phyllis Jason Smith was the only nurse that was located to give direct testimony to the work of nurses at Bergen-Belsen. She recollected that the camp had a population the size of Wellington, New Zealand where she lives. It was so big that she only saw a relatively small section of it at a time. She recalled that nurses were not allowed into the area where the killings had taken place. In her view, the nurses really did not deliver nursing as such due to the overwhelming numbers of people involved, but spent the majority of their time sorting and processing people and trying to give them a feeling of hope that they were going to receive care.

Despite the references in the literature to concerns about women being exposed to the horrors of Bergen-Belsen, Jason Smith believes that the military nurses were as prepared as possible for the conditions in the camp, if anything could prepare human beings for the sights that awaited them. Jason Smith said:

...being in the field hospital from Normandy through France and Belgium and Germany gave me gradual exposure to what for a civilian dropped into the situation would, I think, have been mentally unsustainable; by the time I was sent into Belsen it was something that we needed to do and got on with the job (Jason Smith 2003).

Jason Smith's explanation may account for the difference in attitude of the experienced nurses compared to the unprepared medical students.

Expressions of thanks, celebrating life

Expressions of gratitude for nursing care were given to a number of the nurses by their patients. Doherty received a wreath of dried flowers and several handmade dolls. One of the dolls is dressed in the prisoner uniform and was donated by Doherty to The Great Synagogue in Sydney and recently exhibited at the Sydney Jewish Museum.

Tokens of gratitude to the nurses are housed by the British Red Cross, which possesses a collection of five dolls, all made by survivors. Two of the dolls are dressed in the blue and white prison stripe uniform of concentration camp prisoners, two are in folklore costumes and one is a kangaroo with a joey in its pouch.

Eva Kahn-Minden worked in the maternity section of Bergen-Belsen and was given a locket by one of the mothers under her care. She was given the gift because, in the words of the mother:

You have listened to me when I unburdened myself for the first time about the worst period of my life. Since that talk I feel free and am now happy to be going home with my baby (Kahn-Minden 1991 p.11.)

In December 1945, when Doherty was preparing to leave Belsen she wrote:

I shall be very sorry to leave Belsen and all my contacts here as it has been the greatest experience of my life, and with all the trials and tribulations I have loved every moment of it. In undertaking this relief work of helping others to help themselves we knew no assignment would be permanent, so that I feel, having done my best for Belsen (Doherty 2000 p.203-204).

Nurses joined their patients in learning to celebrate life and life events that for so many years had been impossible or forbidden. In joining in these significant life events, the nurses assisted in their re-integration into the normal rhythms of life that had been lost to them for so many years. Such events included births, *brit milah* (Jewish ritual circumcision), and weddings.

Doherty was invited to become godmother to a number of babies born in the camp. She observed that the life events so important to human society, such as weddings and *brit milah* continued almost daily in and around the hospital and estimated that there may have been 500 pregnant women in the camp although it was hard to tell due to the protruding belly associated with severe starvation.

Lifelong implications

Phyllis Jason Smith claims that she deliberately attempted not to remember what she had experienced and remarked that after nearly 60 years; it had become a self fulfilling prophecy, since she refused to recall some of the events. But when asked how the experience had influenced her she remembered that the few survivors who were able to communicate talked about how there had been a knock on the door and they never saw their families or home again; everything was taken from them. It emphasised to her that anyone can lose everything in an instant and that family, home, food, clothing and education are very important (Jason Smith 2003). She also supports the importance of education, the goal of many survivors today, to ensure that such events never happen again.

Jason Smith feels in hindsight that she coped with conditions at Bergen-Belsen for a number of reasons, the most important being that she had recently met the man who was to become her husband and fallen in love. Her future husband was posted within driving distance of the camp and that relationship sustained her enormously. It created a balance and she considers herself incredibly lucky to have had that source of hope and optimism. She also considers that years of experience as an army nurse in battlefield conditions was instrumental, having been exposed to difficult situations where flexibility and a positive attitude were essential.

Jason Smith's experiences had lifelong implications as well. She and her husband made a conscious decision to leave Britain and live in New Zealand to leave it all behind. In this, she was no different from many survivors who wanted to put Europe physically far away. Starting a new life in New Zealand helped her put the experiences behind her because she felt she could never describe to people what it had been like.

Doherty wrote in hindsight that her appointment as Matron of Belsen Hospital "proved to be the most worthwhile job of my life" (Doherty 2000 p.203). Most important in her view was that she had helped people to help themselves, a powerful testament to the importance of a caring relationship.

CONCLUSION

Historical events can provide contemporary nurses with a contextual perspective and assist in the development of nursing practice, not only in how nurses respond in catastrophic situations, but in a broader social context - the danger of marginalising any group of people as 'different'. While the work of the nurses and the importance of their care have not been fully explored in most historical studies of Bergen-Belsen, it is clear that the experience of nursing in the camp was profound for them and that their experiences and attitudes are an inspiration to contemporary nurses. The reciprocal nature of the caring relationship indicates it was equally so for patients who received not only the gift of life in a physical sense due to all the relief efforts, but importantly, a sense of humanity that had been negated for so many years.

There is scope for further research and it is highly likely that military and regimental archives in the United Kingdom may shed further light on the previously ignored contribution of nursing to people desperately in need of care.

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