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Documentation in a PICU setting: Is a checklist tool effective?

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KEY WORDS

nursing documentation, documentation compliance, checklist, paediatric intensive care unit

ABSTRACT

Objective

To compare and contrast nursing compliance with, and completion of, two versions of a nursing care management form. The audit highlights areas and levels of compliance and non-compliance and provides the foundation for further document development.

Design

A retrospective chart audit was undertaken comparing completion levels of a previous nursing checklist (form A) and a revised and updated checklist document (form B)

Setting

A paediatric intensive care unit (PICU) at a major metropolitan paediatric hospital.

Subjects

All available medical records containing the checklist of those patients discharged from PICU during the months of November 2009 and February 2010 were audited.

Main outcome measures

Levels of completion of both versions of the form and individual items were low.

Results

Compliance levels with document completion improved following the introduction of the form B, although poor completion remained a major issue. Up to 70% of nursing shifts recorded no information on the checklist document. Compliance levels were not affected by age, length of stay, or severity of illness.

Conclusions

The checklist forms were largely left incomplete, although an improvement in completion was noted with the introduction of the new checklist (form B). This raises questions about the appropriateness of the forms and their applicability to clinical practice.

INTRODUCTION

Paediatric intensive care units (PICUs) provide services for children requiring specialised medical care for complex health conditions. These units offer a broad range of treatment types requiring nursing staff to provide high level care across multiple specialised fields. As such, nursing duties within these units are challenging and complex. PICUs have been indicated as high-risk areas, where numerous errors may occur due to the complex nature of the environment (Manor-Shulman et al 2008; Simpson et al 2007; Bracco et al 2001). Thus nursing documentation becomes an important element of patient care, allowing communication between care teams and across nursing shifts, providing a legal record of care administered and acting as a tool to help manage patient care (Hales et al 2008; Mueller and Glennon 2007; Hewson and Burrell 2006). Studies have linked the quality and effectiveness of documentation with a reduction in patient mismanagement, demonstrating that nursing documentation is a vital tool in reducing mortality rates and adverse patient events (Clarke et al 2004; Pronovost et al 2003; Suresh 2003; Soto et al 2002).

The introduction of a new checklist-style nursing documentation tool in the PICU at a major metropolitan paediatric hospital in Australia provided an opportunity to assess the level of staff compliance with institutional documentation. Checklist documentation as a method for error reduction in nursing tasks has been investigated in the literature (Carroll 2008; DuBose et al 2008; Hales et al 2008; Simpson et al 2007; Hewson and Burrell 2006). Checklist tools allow duties to be systematically completed in highly complex and stressful environments (Hales et al 2008). The provision of optimal patient care depends in part, on the quality of nursing documentation and the relevance and appropriateness of nursing checklists (Donchin et al 2003; Martin et al 1999).

This audit was designed to generate outcome data regarding staff usage of the new checklist within a PICU environment. In particular, the study aimed to determine whether there were particular shifts in which compliance varied and whether individual elements of the new form were associated with low levels of completion. This retrospective chart audit aimed to inform hospital-based processes for auditing documentation compliance and to form the foundation for future research investigating documentation development. This audit facilitates improved insight into whether institutional documentation is meeting the needs of patients, nurses and medical and allied health.

METHODOLOGY AND METHOD

Aim

This study was designed to audit and compare the compliance and completion levels of two PICU nursing care management checklists, a trial document (form A) which had been in place for many years and a newly introduced form (form B) which was introduced in late January, 2010. Specific documentation for patients discharged during November 2009 (form A) and February 2010 (form B) were analysed and compared.

Study population

A total of 134 records were accessed, covering a total of 476 patient days. Patient records were included if the patient was discharged from PICU during the month of November 2009, using the form A (n = 85) or February 2010, using the form B (n = 49). A convenience method of sampling was used. All accessible records were audited if the patient discharge fell into the inclusion date range, irrespective of severity of illness, length of stay and nature of admission. Patients being treated in the hospital at the time of audit, those in outpatient clinics, those with records required by the coroner's court and patient files whose form was missing were excluded from the audit as records were unable to be accessed by researchers. Patients with multiple PICU admissions within the data collection periods were allocated separate study numbers for each admission.

Procedure

A data collection tool for each of the forms was developed. Each item required a specific response expressed as a coded number, dependent on the nurse's response representing NA, no, yes or left blank. The other side of each tool was designed to collect patient information including study number, age at admission, gender, length of stay in PICU, discharge destination and Paediatric Index of Mortality 2 (PIM2) score. The data collection tools were developed to maximise inter-researcher reliability and minimise human error.

A single data management file was created to link Unique Record (UR) numbers to assigned study numbers, ensuring that no identifying patient information was entered on either tool, and that patient confidentiality was maintained.

Data collection

Data was collected from the PICU of a major paediatric hospital that caters for approximately 1300 patients per year. Patient records are held on site and all data collection occurred within the medical records department on hospital grounds.

A group of five researchers collected data over a three month period (January 2010 to March 2010). A set of data collection procedures was developed to ensure that each auditor was collecting and transcribing data in an identical manner. Researchers responsible for data entry were minimally involved in the physical collection of data to reduce potential preconceptions and bias. Ten per cent of all records were cross-audited by multiple researchers to ensure data or transcription errors were not occurring and to ensure data integrity.

Statistical analyses

Data was coded and entered into a Microsoft Excel 2003 spreadsheet. Following data cleaning, data was exported to IBM SPSS Statistics 18 (Statistical Package for the Social Sciences, USA). Descriptive and correlation analyses were conducted with p values used to describe the significance of any relationships observed.

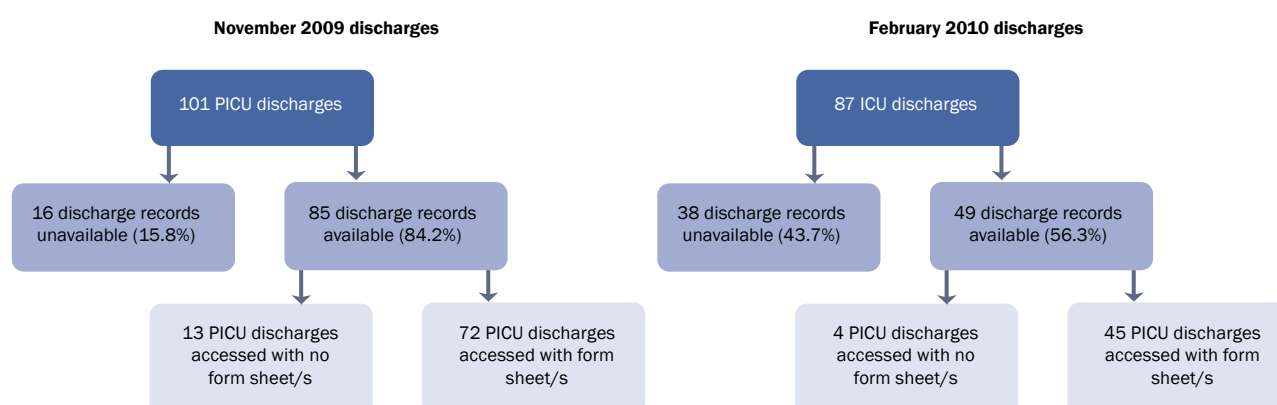
Ethical considerations

Approval for the study was granted by the Human Research Ethics Committee at the institution.

FINDINGS

Seventy-two records of the total 101 November PICU discharges met the inclusion criteria (72.7%) and contained the form A form. The February audit of patient records contained the new form B forms. In-house education was delivered before the introduction of the form B. Eighty-seven patients were discharged from PICU in February 2010, and forty-five (39.15%) records met the study inclusion criteria. Record accessibility is summarised in Figure 1.

Figure 1: Discharges from PICU and audited records



The demographics of the study population are summarised in Table 1.

Table 1: Characteristics of PICU audit population

<i>Patient characteristics</i>	November 2009 (form A)		February 2010 (form B)	
	<i>Accessed</i>	<i>Not accessed</i>	<i>Accessed</i>	<i>Not accessed</i>
Gender [number (%)]				
Female	36 (42)	4 (25)	18 (37)	16 (42)
Male	49 (58)	12 (75)	31 (63)	22 (58)
Age at admission to PICU in years [median(IQR)]	1.49 (5.36)	3.73 (7.62)	2.44 (9.35)	1.42 (12.53)
PIM2 Score [mean(SD)]	-3.86 (1.24)	-3.98 (1.60)	-3.96 (1.04)	-3.29 (1.25)
Length of PICU stay in days [median(IQR)]	2.00 (3.00)	1.50 (7.00)	1.00 (1.50)	3.00 (8.25)

Characteristics of form sheets

Form A required nursing staff to document between 12 and 26 items per shift (completion requirements varied between shifts and certain tasks were only performed daily and therefore only affected one nursing shift). Form A was split into six columns, with each column representing a day. Task descriptions appeared in each daily column. In contrast, form B had 43 items to be completed regardless of shift time or previous task completion. It was divided by shifts rather than days, with 18 columns appearing on each form. Task listings appeared only once at the left edge of form B, as opposed to in each column.

Completion of individual items

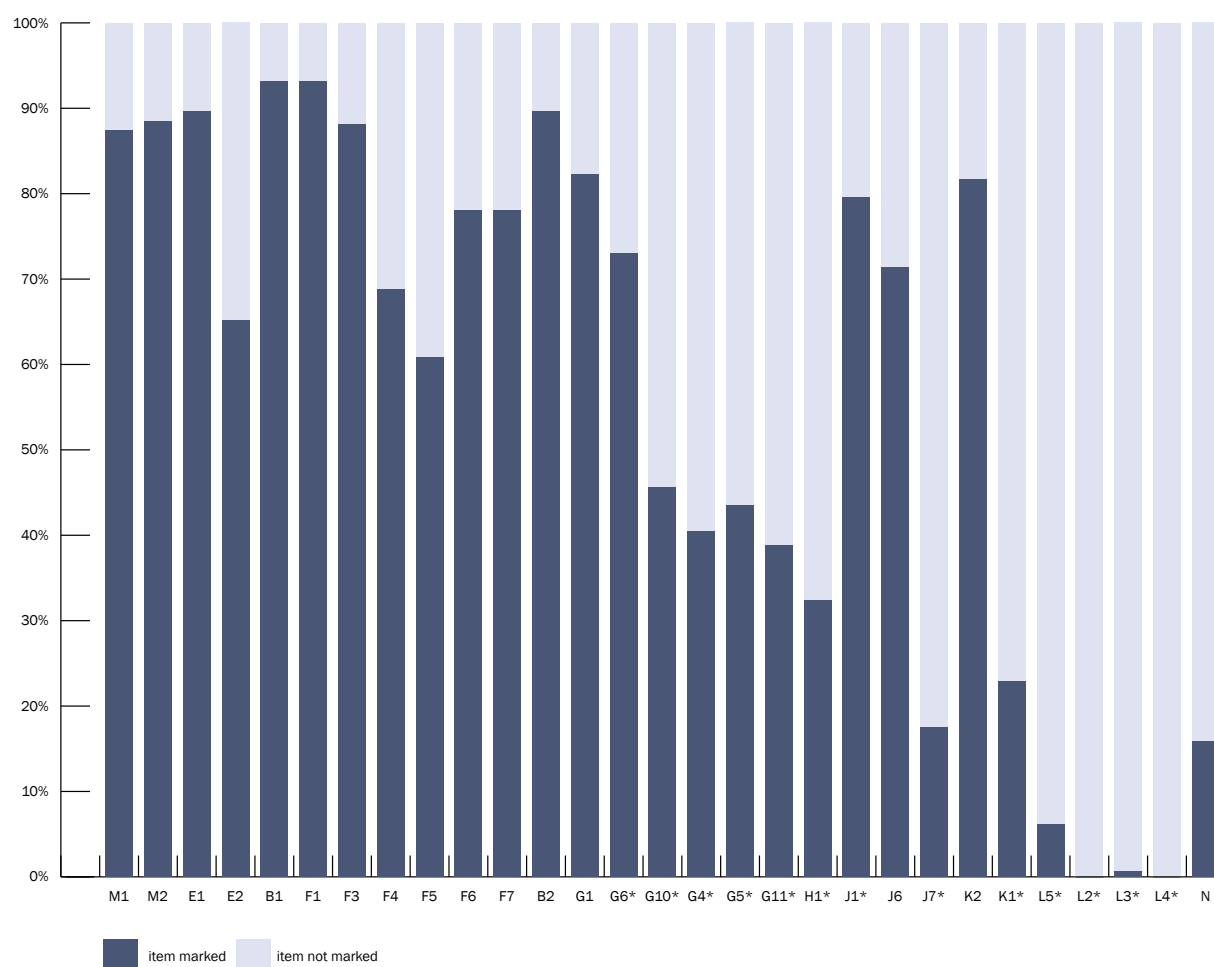
Form A

PICU nursing staff were required to complete form A each shift, however shift times and lengths vary within the unit. A standard shift is eight hours long, meaning that in one 24-hour period, three staffing changes would occur. However, staff members are permitted to work 12 hour shifts, meaning that a 24-hour period could potentially contain only two staffing changes. Thus, when auditing form A, it was not possible to discern whether blank shifts on the form were due to non-compliance or 12 hour shift loadings. As such, only completed shifts were analysed in the individual task item completion analysis. 331 days of data were collected from 72 patient records. In total, 70 day (AM) shifts, 54 evening (PM) shifts and 83 night (ND) shifts had completed checklists available for analysis.

Figure 2 details individual item compliance levels. Items marked with an asterisk are only performed once a day. All other entries are required to be completed each shift, with the exception of F6 and F7 which are specific to ND. Table 2 lists the entries as detailed on form A. Note that although some tasks are only required every 72 hours, a dash indicating non-applicable' should still have been made by nursing staff on form A.

Table 2: Items as listed on form A. Codes in the right hand column were allocated by the research team and do not appear on the PICU checklist. * refers to once daily entries

Name / Signature	M1, M2
CNS	E1, E2
Respiratory	B1, F1, F3, F4, F5, F6, F7
CVS	B2, G1, G6*, G10*, G4*, G5*, G11*
Renal	H1*
Endo/GIT	J1*, J6, J7*
Derm	K2, K1*
Psycho Social	L5*, L2*, L3*, L4*
Other	N*

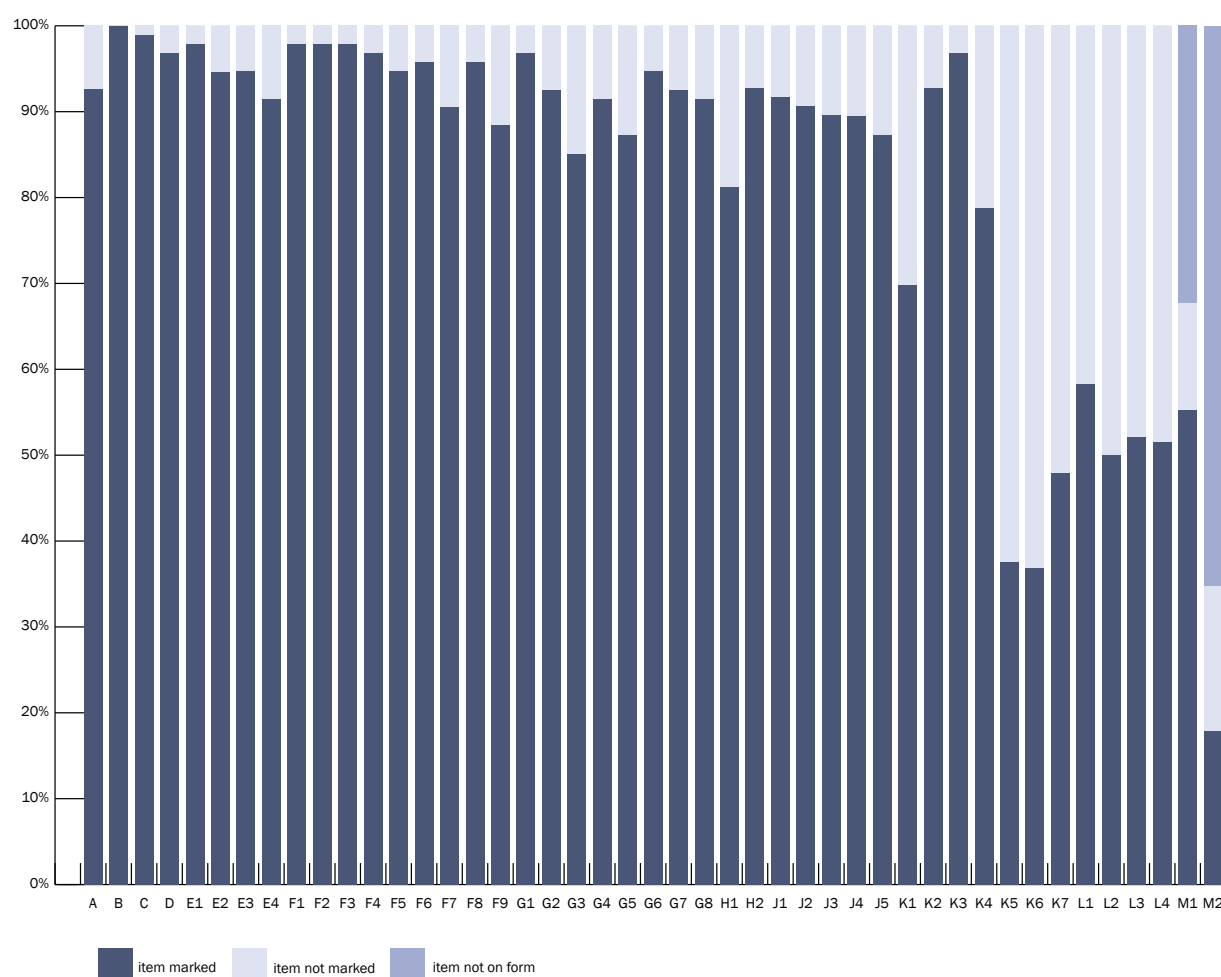
Figure 2: Rates of completion of checklist items on form A**Form B**

Of the 45 records audited containing form B, 145 days worth of data were collected. A total of 43 AM shifts, 23 PM shifts and 30 ND shifts were documented by staff during these 145 days.

Figure 3 shows individual item completion levels on form B. A third category of completion, “item not on form” has been included for items M1 and M2 (signature and name), as poor photocopying of form B had, in some cases, removed this section from the document.

Table 3: Items as listed on the form B. Codes as specified in the right column were allocated by the research team and do not appear on the PICU checklist

ID label, alarms, assessment, infection control	A, B, C, D
CNS	E1, E2, E3, E4
Respiratory	F1, F2, F3, F4, F5, F6, F7, F8, F9
CVS	G1, G2, G3, G4, G5, G6, G7, G8
Renal	H1, H2
Endo/GIT	J1, J2, J3, J4, J5
Derm	K1, K2, K3, K4, K5, K6, K7
Psycho Social	L1, L2, L3, L4
Signature & Name	M2, M1

Figure 3: Rates of completion of checklist items on form B**Completed shifts per day**

The collected data was further analysed to examine how many shifts were completed each day for both form A and B. Days of admission to, and discharge from, PICU could expect to have fewer shifts completed on the form, depending on the time of admission/discharge. Thus only whole days of admission were examined. Of the 134 records audited (both form A and form B), 60 patients had lengths of stay greater than one day. The 60 records yielded 203 full days of PICU stay (excluding admission and discharge days). All days should have had a minimum of two shifts completed. Table 4 details the number of shifts completed per day.

Table 4: Number of shifts completed for full days of admission

	Form A		Form B	
No. of days with zero shifts completed	67	(44%)	18	(36%)
No. of days with one shift completed	60	(39%)	17	(34%)
No. of days with two shifts completed	20	(13%)	10	(20%)
No. of days with three shifts completed	6	(4%)	5	(10%)
No. of full days	153	(100%)	50	(100%)

To these 60 patients a 'shift score' was allocated, calculated by dividing the number of completed shifts over these full days of admission by the total number of shifts during the same period (i.e. number of full days of admission multiplied by 3). This shift score was then analysed with regards to length of stay, age at admission

and PIM2 score. The relationship between shift score and each of length of stay, age at admission and PIM score were found not to be significant with $p > 0.05$, for each for the 60 relevant records analysed. There was no significant difference found between completion of shifts for form A compared to form B ($p > 0.05$).

Limitations

This study had a number of limitations. The population of records audited may not be representative, as a large number were unavailable to researchers. Compliance was difficult to assess as it was not possible to determine whether two or three shifts were worked in one day. Comparative analysis of individual item completion was not possible due to the difference in content of the form A and form B.

DISCUSSION

The audit and comparison of both form A and form B show a low level of completion, both at an individual item level and at a daily shift level. There appear to be distinct patterns of non-completion of certain items on both forms. On form A, once-daily items (see asterisked entries, figure 2) generally had lower completion rates than shift specific items. Staff rarely documented psychosocial items, and cardiovascular system (CVS) items also showed low completion levels (see figure 2). Whilst many of these CVS tasks were not required to be physically performed by nursing staff every day, a dash must be entered on form A when the item is not applicable to the shift, in order to allow staff to keep track of when tasks have been performed and when they are next due. CVS entries not marked were assumed to be non-complete entries.

The introduction of form B saw completion levels rise (see figure 3). There was an improvement in all areas of the form, although the documentation of psychosocial items remained poor. A direct comparison of individual item completion between the two forms is not possible as the content, design and structure of each form varied so greatly. However a comparison of figures 2 and 3 shows that completion did improve significantly with the introduction of the form B. It must be noted that only shifts where information was actually documented by nurses were analysed by item. Table 4 highlights the number of full days in which the forms did not have the appropriate number of shifts filled in. 83% of full admission days for form A had less than the minimum possible number (two) of daily staff shifts filled in. Figures for form B were slightly improved with 70% of full admission days missing documented shifts. Although an overall improvement in form B completion was noted, there are still a large number of shifts in which staff did not document any information on form B at all, and the improvement was not found to be statistically significant ($p > 0.05$).

The number of shifts documented was not found to change with patient demographics such as length of stay, age or severity of illness as represented by PIM2 score ($p > 0.05$ for all three). Given that patient population type is not a determining factor in form non-completion, the question must be asked as to why completion levels are so low. Are these essential tasks as listed on the form actually not being performed or are they merely not documented? Information duplication within nursing documentation has been identified by previous studies as a major factor in repetitious and inefficient use of nursing care time (Cheevakasemsook et al 2006; Voutilainen et al 2004; Soto et al 2002). Multiple and overlapping charting and documentation duties are prevalent in acute care settings (Cheevakasemsook et al 2006) and have been shown to reduce time available for patient care by up to 50% (Irving et al 2006; Rolston-Blenman 2009). In an environment such as the PICU, in which patients require complex and demanding levels of care, it is possible (and indeed likely) that nurses are sacrificing accurate documentation on the forms in order to better care for their patients. While the forms are checklists, with tick-box style entries that can be completed quickly, it is possible that much of the information present in this form is already recorded in nursing notes and other required documentation. Whilst a review of the complete nursing documentation required within each shift was outside the scope of this audit, it is possible that nursing staff are overwhelmed by the competing demands of patient care and repetition within overlapping documenting duties.

CONCLUSION

This study found a low level of compliance in the PICU setting when completing a documentation checklist tool. Items that were particularly poorly completed often related to daily nursing tasks.

This study provides insight into the level of compliance within this hospital's PICU setting and raises questions about both the usefulness of checklist documentation in the PICU setting and the potential impact of documentation non-compliance on patient outcomes. The improved compliance seen with the introduction of form B may be attributable to the education delivered at its inception and further research may evaluate whether compliance declines over time. Further research may also determine whether the nursing documentation load is too cumbersome or superfluous in its present form and whether the use of technology may reduce duplication or incomplete record keeping.

RECOMMENDATIONS

It is hoped that this research will form the foundation for further studies into what type of documentation is optimal within the PICU setting, taking into account the requirements of the hospital and differing care teams, nursing workload and the legal and accurate charting of patient care and response. The end result must always be improved patient care and the creation of documentation that aids this objective rather than hinders it.

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Research and evidence based practice in a rural Victorian cohort

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KEY WORDS

Evidence based practice, nurses, health organisations, research, eHealth

ABSTRACT

Background

There is little evidence of the prevalence of research driven evidence based practice (EBP) or the supportive nature of organisations in a rural Australian setting.

Objective

The aim of this paper is to identify the research capacity and value of research that translates to EBP in organisations in rural Victoria, Australia.

Design

A snowball technique was used for recruitment. Data was collected using a modified version of a survey originally developed by the Australian Nursing Federation to determine eHealth literacy. The survey was supplemented to measure respondent's perceptions relating to organisational research ability and value.

Setting

Hospitals, aged care facilities, and general practice surgeries.

Subjects

Nurses in rural Victoria, Australia.

Main outcome measures

Use of research, ability to locate and analyse research, to determine if research was valid, high quality, relevant and applicable, organisations value of research and EBP, linkage of research to quality care of organisation.

Results

Approximately a third of respondents report they have skilled staff for research and evidence assessment. However more than 50% report limited time to research or gather evidence. Research is reported as a priority for the organisation by approximately 40% of respondents. The translation of research to EBP was noted by approximately 50% of respondents who report that decision makers in their organisations consider high quality relevant research when making choices about quality care activities.

Conclusions

This paper demonstrates a need to improve the ability to access quality research and to improve organisations uptake of research and its translation to EBP.

INTRODUCTION

The nursing profession makes up an integral part of the healthcare system. The healthcare system is under ever-increasing pressure from nurses and other healthcare practitioners to continually change and adapt as a result of the amount of new knowledge generated and reported through research. In response to these expectations, evidence-based practice (EBP) in nursing has evolved to encourage the reinforcement of interventions, new ideas in patient care, and enduring outcomes to benefit patients.

The last three decades have showcased the importance of EBP within the nursing profession (Winters et al 2007; Fink et al 2005; Olade 2004; Rycroft-Malone et al 2004; LeMay et al 1998). A huge emphasis has been placed on EBP in the workforce and the concepts and ideas surrounding EBP have been introduced into the nursing curricular, emphasising a commitment to the cause. Specifically, knowledge translation and implementation research are emerging as important reference material from within the healthcare system. It has been suggested the discipline of nursing has fallen behind other health professionals and the discipline has been measured when considering research output and its translation into improved patient care (Bonner and Sando 2008; Olade 2004; Nagy et al 2001; Haynes et al 1995).

The prevalence of clinical interventions based on EBP in the US, UK and Europe is wide ranging from approximately 25-70% (Haines et al 2004; LeMay et al 1998). Despite this lack of translation from research into practice, there is an expectation that nurses will incorporate best practice into their clinical decisions. Research is at the forefront of informing EBP and nurses therefore need skills in accessing, retrieving, appraising and applying research to clinical situations (McCaughan et al 2005)

Rycroft et al in 2004 suggest that getting evidence into practice is dependent on more than an individual practitioner's motivation and that organisational input is likely to be influential. Getting evidence into practice involves more than identifying high quality research evidence; it requires integration of robust research, clinical experience, patient experience and information from the local context (Rycroft-Malone et al 2004). McCaughan et al (2002) conducted a study in the north of England and reported that nurses who were confident with research based information felt that organisational support was a significant block to the use of EBP. Organisational support has been recommended as a requirement of a receptive environment for EBP to flourish (Bonner and Sando 2008; LeMay et al 1998).

There is little evidence of the prevalence of EBP implementation and the supportive nature of organisations for EBP in the rural Australian setting. The aim of this paper is to identify the research capacity of organisations of health professionals in rural Victoria. Additionally this paper explores the value of research in organisations across rural Victoria.

METHODS

Recruitment of respondents for this study consisted of an information letter and the survey being attached to the pay slips of nurses and allied health professional staff of participating organisations. Consent was implied by the return of a completed survey. The target group comprised nurses and allied health professionals over 18 years of age and less than 70 years of age from health services across rural Victoria. Non English speaking professionals were excluded. Approximately 711 surveys were distributed through health services from Alexandra, NEH Wangaratta, Moira and Seymour. These health services included rural hospitals, small (less than 50 beds) and medium (more than 100 beds) in size, aged care facilities and general practices.

A survey previously used by the Australian Nursing Federation to determine eHealth literacy levels and confidence with computers formed the basis of this survey (Hegney et al 2006). Specific questions were added to measure respondents perceptions of research ability in their participating organisations. Respondents were asked several questions relating to some common themes. These include: if their organisation used

research, looked for research in the right places, if the research was valid and of high quality, if research was relevant and applicable, if research was valued and if research was linked to quality care activities. Univariate statistical analysis was conducted for all questions in the study using SPSS Version 17. Ethical approval was granted from the University of Melbourne, Human Ethics Advisory Group.

FINDINGS

The overall response rate was 33% (n=234). The average age of respondents was 46 years (SD 10.4) with the majority being aged between 45-54 years (45%, n=99). The majority reported working in a hospital (68%, n=157) with the balance working in residential aged care, general practice or other community health facilities. The types of care delivery provided was reported as hospital based, in or out patient services (58%, n=135), residential care (11%, n = 26), 15% (n=15) community based work, 6.9% (n=16) non clinical work, and the balance other type work not specified.

Respondents were asked to describe their main role, the majority (71%, n=161) were clinicians, 12% (n=27) were managers, 3.9% (n=9) were educators, 0.9% (n=2) were researchers and 13% (n=29) reported other not specified. The average number of years worked was 21 years (SD 12.0). There was a fairly even spread with 15% (n=34) having worked for less than five years, 14% (n=33) worked between six and ten years, 18% (n=41) worked between 11 and 20 years, 30% (n=70) worked between 21 and 30 years, and the remaining 22% (n=53) working for up to 41 years.

Respondents were asked to use a scale to answer questions relating to several research domains including use of research, validity and quality of the research, relevance and applicability of the research, value of research and linkage of research to quality care activities. Results of these domains are presented below in Tables 1 to 4.

Table 1: Does organisation use research?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
	N (%)	N (%)	N (%)	N (%)	N (%)
Have skilled staff for research (N = 158)	13 (8.2%)	25 (16%)	61 (39%)	49 (31%)	10 (6.3%)
Staff has enough time for research (N = 155)	21 (14%)	62 (40%)	50 (32%)	17 (11%)	5 (3.2%)
Staff has incentive to do research (used in decision making) (N = 157)	12 (7.6%)	38 (24%)	58 (37%)	45 (29%)	4 (2.6%)
Staff has resources to do research (N = 159)	10 (6.3%)	42 (26%)	53 (33%)	47 (30%)	7 (4.4%)

Respondents were asked to report if their organisations were able to look for research in the right places, response options ranged from research not being done or being done poorly to being done with consistency and being done well.

Table 2: Does organisation look for research in the right places?

	Don't do	Do Poorly	Do inconsistently	Do with some consistency	Do well
	N (%)	N (%)	N (%)	N (%)	N (%)
Look for research in journals (N = 203)	19 (9.4%)	14 (6.9%)	56 (28%)	75 (37%)	39 (19%)
Look for research in non-journal reports (grey literature) library, Internet access (N = 190)	23 (12%)	14 (7.4%)	57 (30%)	68 (36%)	28 (15%)
Look for research in databases such as Cochrane Collection (N = 186)	31 (17%)	14 (7.5%)	54 (29%)	53 (28%)	34 (18%)

The value of research to an organisation was assessed using a series of questions.

Table 3: Is research valued in organisation?

	Strongly disagree N (%)	Disagree N (%)	Neither agree nor disagree N (%)	Agree N (%)	Strongly agree N (%)
Using research is a priority in organisation (N = 185)	2 (1.1%)	28 (15%)	74 (40%)	71 (38%)	10 (5.4%)
Corporate culture values and rewards flexibility, change and continuous quality improvement with resources to support values (N = 202)	8 (3.9%)	24 (12%)	85 (42%)	72 (36%)	13 (6.4%)
Organisation has arrangements with experts who use critical appraisal skills and tools for evaluating the quality of methodology used in research	10 (4.9%)	31 (15%)	100 (49%)	54 (27%)	7 (3.5%)
Staff can relate their research to their organisation and point out similarities and differences	6 (2.9%)	13 (6.3%)	94 (45%)	85 (41%)	9 (4.3%)

Respondents were asked to report on quality care activities within an organisation linked to research.

Table 4: Does organisation link research findings to quality care activities?

	Strongly disagree N (%)	Disagree N (%)	Neither agree nor disagree N (%)	Agree N (%)	Strongly agree N (%)
Decision makers in organisation give formal consideration to any recommendations from staff who have developed or identified high-quality and relevant research (N = 203)	7 (3.5%)	18 (8.9%)	82 (41%)	86 (43%)	9 (4.5%)
Staff who provide evidence and analysis usually participate in decision-making discussions (N = 203)	7 (3.4%)	23 (11%)	79 (39%)	87 (43%)	7 (3.4%)

DISCUSSION

There have been numerous studies conducted that assess research and EBP use and barriers. Previous work however has not focused solely on a rural organisational context.

The response rate to this study was 33%; this is not dissimilar to other Australian studies (Mills et al 2009; Bonner and Sando 2008; Gething et al 2001; Retsas and Nolan 1999). Our findings show an average workforce age of 46 years, with 64% being aged between 35 and 54 years. This is consistent with other Australian studies (Mills et al 2009; Bonner and Sando 2008; Olade 2003). Average time in the workforce was 21 years, a finding uncommon in other Australian or International studies. Although this finding may not be wholly reflective of rural workforces. Most studies report between 12.2 years (Hutchinson and Johnston 2004; Retsas 2000) and 18.3 years (Mills et al 2009; Bonner and Sando 2008; Fink et al 2005; Olade 2003, 2004; Retsas and Nolan 1999) in the workforce.

Respondents in this study were asked if there was enough time to research. Consistent with the literature, 54% disagreed with this statement. This is a finding in line with other Australian and International studies where lack of time has been identified by both nurses and their managers from an individual and organisation

viewpoint.(Bonner and Sando 2008; Roxburgh 2006; Fink et al 2005; McKenna et al 2004; Hutchinson and Johnston 2004; Olade 2004, 2003; Eller et al 2003; Gething et al 2001; Parahoo 2000; Retsas 2000; LeMay et al 1998)

Respondents were also asked to report if their organisation had enough skilled staff for research, with a third (37%) reporting this was the case. Similarly a third (32%) of respondents reported that they had enough incentive to do research. Results of a study by Roxburgh et al (2006) concluded that nurses report a limited knowledge of the skills required to undertake research and specifically skills in the research process (Retsas 2000; Retsas and Nolan 1999). In this study almost equally a third agree (34%) with regard to sufficient resources to do research. Another study reported that lack of resources is a major barrier for the use of research in practice (Hutchinson and Johnston 2004; Parahoo 2000; Retsas and Nolan 1999).

Mills et al in 2009 differ in this opinion reporting 51% strongly disagreed there are insufficient resources for research use however this was in the community general practice setting. The bulk of evidence supports the findings of this current study in that there is a gap in the provision of resources to search for evidence. This study highlights that a lack of skilled staff, a lack of time and resources are limiters to research that precedes adoption of EBP.

Around one third (30%) of respondents reported their organisation has staff with or external arrangements with experts who use critical appraisal to determine the validity of studies. Similar studies also report on the low confidence of judging the quality of research reports by nurses (Mills et al 2009; Hutchinson and Johnston 2004; Parahoo 2000; Retsas and Nolan 1999). Likewise low competency results were noted for respondents being able to use evidence to change practice (21% competent, 31% quite skilled, 48% complete beginner/novice) (Mills et al 2009).

The lack of skills in evaluating or critically appraising the evidence could be related to a lack of skills in actually accessing research in the first place. Access to research was noted as a barrier in a study that reported 55-70% of their sample was unaware of research and 51-54% reported research articles were not readily available (Hutchinson and Johnston 2004; Parahoo 2000; Retsas and Nolan 1999). A lack of confidence or competence in using a computer to search for evidence based information is also a common finding (Mills et al 2009; McKenna et al 2004). In this current study respondents were asked a series of questions about where their organisation looks for evidence, approximately 20% look for evidence in databases such as Cochrane, evidence in non journals on the internet or evidence in journals. Further to this 45% reported they could relate research to their organisations and point out the similarities and the differences. This is similar to results found in a study by Nagy et al (2001), where 44% agreed research has relevance to their organisation.

This indicates a further barrier to those above specifically time and resources. This study results reinforces the evidence that research skills for the majority of nurses are lacking. Nurses are not equipped to locate the evidence they need to make informed decisions about changes in practice. Disappointingly when research is located, only half of the sample can determine the relevance to their organisations. This presents a significant barrier to the uptake of EBP.

Another objective of this study was to determine the value placed on research by organisations. If EBP is to be embraced by nursing staff it needs to be valued by management. It has been reported that the value of research in an organisation is an important factor in the uptake of EBP (Retsas 2000; LeMay et al 1998). Cultural support, or lack of, in Nagy et al's study was demonstrated by questions relating to the climate and supportiveness of particular staff management. Twenty nine percent (29%) agree the hospital had a climate which encouraged staff to pursue new ideas. However there was agreement that nurse unit managers and clinical educators (57% and 50% respectively) would be supportive to change practice on the basis of research (Nagy et al 2001).

In this study 42% of respondents agreed their organisations corporate culture values and rewards research. Respondents were also asked if their organisation valued research by asking if research is a priority, 43% agreed this was the case. It has been reported a lack of positive culture within hospital wards may play a part in the lack of uptake of research findings (Retsas 2000; LeMay et al 1998).

The results suggest whilst some organisations believe research and its translation to EBP is a priority and is a valuable commodity, a further half of the staff of these organisations surveyed do not think it is important to their organisations management. This leaves room for improvement at the higher management levels of organisations which can then filter down through to the nurses providing EBP at the patient's bedside.

In this study a unique focus was on the organisations ability to incorporate research into organisational decision making. Respondents were asked to report on their perceptions of 'consideration to staff from decision makers to any recommendations from high quality and relevant research' (48% agree) and that 'staff with evidence and analysis were asked to participate in decision making discussions' (47% agree). These results show that similar to above in some organisations respondents believe their contributions to research is valued however similarly there is room for improvement at an organisational level.

A strength of this study was that it was conducted in multiple settings in the North East of Victoria. There was however a low response rate. This suggests a bias in the results with the possibility that use of EBP based on research is even lower than reported and that organisational support is even less evident than this study suggests. This study is not the first to suffer from low response rates though and is a reflection of the methodology adopted with recognised low response rates when using postal surveys in primary care (McKenna et al 2004).

CONCLUSION

The major barriers such as time, resources and skills identified remain constant and may be deteriorating over time. Reducing the barriers of time at work, resources and improving skills should address some of these issues. It is encouraging that there are studies with positive reinforcement of the value of research and EBP and discouraging that there are others where the value is not clear. The reasons given that may provide an insight into these negative attitudes need to be explored further in relation to interventions that change these barriers to adoption of EBP. Improving uptake and providing mentors and champions within organisations that encourage and reinforce the use of EBP are also required. The encouragement of inclusion of staff in decision making processes, particularly staff who bring evidence from research that is of high quality demonstrated in this study should be further encouraged and highlighted as best practice for an organisation.

Changing individual practitioner's perceptions of research and EBP will remain a challenge however it is unlikely to change until there is a complete commitment from organisations in terms of value of research and evidence based practice and resources to support the rural workforce.

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How competency standards became the preferred national technology for classifying nursing performance in Australia

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KEY WORDS

Competence, classification, history, nurse

ABSTRACT

Objective

The aim of this study was to explore how competency standards came to be the preferred technology for classifying and nursing performance in Australia at the end of the 20th century.

Design

A genealogical approach to the history of the development of the Australian Nurse Regulatory Authorities Conference (ANRAC) Competencies (1990) is adopted.

Setting

The setting is Australia during the period of 1975 to 1990.

Subjects

Data was collected from minutes of ANRAC meetings, including ANRAC Competencies Committee meetings, government reports, a review of the literature on nurse assessment and competence, and interviews with five nurse leaders involved with the competencies development or regulation during this period.

Main outcome measure

Description of how competency standards came to be the preferred technology for classifying nursing performance in Australia.

Results

The emergence of a national competency standards technology is closely associated with the transfer of nursing education into the higher education sector, an expected shortage of skilled nurses, and microeconomic reform intended to position Australia as a world leader in a global economy. Through skilled rhetoric, nurse leaders established the need for national competency standards to address the issues confronting diverse social worlds while advancing the professional status of nursing through competency standards design.

Conclusion

The national nursing competency standards is a technology that addressed the confluent concerns of those interested in the social worlds of nursing education, nursing research, occupational regulation, professional guilds, and national economic productivity thereby privileging it among instruments to classify nurse performance.

INTRODUCTION

The emergence of national competency standards for registered and enrolled nurses in the late 20th century was the subject of intense debate circa 1990. Today, competence and competency standards are ubiquitous in nursing, so taken-for-granted that competence has become a natural way of conceptualising nursing performance. In a period of less than 20 years, the classification of nursing work, and therefore nurses, into categories has become de rigueur in education and regulation, as well as in workforce management.

In this history of the *ANRAC Competencies 1990*, now known as the *ANMC (2006) Competency Standards*, aims to make visible the work of making the standards possible by describing how the *ANRAC Competencies* came to be the preferred technology for classifying nursing performance in Australia.

LITERATURE REVIEW

In 2010, national legislation came into effect to establish and govern the Australian Health Practitioner Regulation Agency, which covers ten professions including nursing (AHPRA undated). The *ANMC (2006) Competency Standards* is one of several guidelines used by the national agency to do its work. This particular guideline has assumed significant power within Australian nursing communities, used for curriculum design; student assessment and continuing education, including procedural competence (Dugdale and Grealish 2010). Understanding the history of competency standards, and in particular how the seminal competency standards instrument was designed, can help nurses today recognise its strengths and limitations as an instrument for classifying nurse performance across a range of settings.

The decision to adopt competence as an organising framework in nursing was controversial and hotly debated in the 1990s (Chapman 1999; Chambers 1998; McAllister 1998; Milligan 1998; Cheek et al 1995; Alspach 1991; Ashworth and Morrison 1991). Its ubiquity as a working concept today belies this contentious introduction. The mainstream usefulness of the competency standards is observed in the recent development of a national toolkit for determining competence in undergraduate nursing students (Crookes and Brown 2010).

The search for ways to classify nurses as novice, competent, proficient, or expert or as competent/not competent is not uniquely Australian. Around the world, the development of instruments to measure competence and thereby classify nursing performance, have been chiefly founded upon operational performance and/or capability (Calman et al 2002; Redfern et al 2002). In a concept analysis of competency in nursing, Tilley (2008) concluded a lack of a clear definition for competence has impeded progress towards assessment of effective practices.

Bowker and Star (2000) claim that classifying work is essentially human work; it is undertaken in tacit as well as formal ways. We use categories to group materials on our desks and separate our laundry. When these classification systems are embedded in technical instruments, such as competency standards, those instruments become a black-box technology; we don't have to understand how they work to use them in our daily practice. But technical systems (like categorising systems) have social and political ramifications and reminding ourselves of this keeps a space open for exploration, change and flexibility (Bowker and Star 2000).

In their work on theory about standards development, Star and Lampland (2009) suggest that "small conventions adopted early on are both inherited and ramify throughout the system" (p. 15). Understanding the conventions that underpinned the first national competency standards can help people working with the instrument today to see both its usefulness but also its limitations. This research aims to show how the competency standards came to be the preferred technology for classifying nurse performance in Australia.

METHOD/METHODOLOGY

Attention to the historical timing of multiple discursive elements and changes in past ones “can reveal both the timing and contents of proposals for new ways to construct reality” (Clarke 2005, p.151). Analysis of discourse, focusing on a particular period in time can reveal how nursing performance came to be conceptualised as competence and competency standards rather than some other form. But some aspects of discourse never surface directly as texts therefore requiring other forms of evidence (Clarke 2005). Reviewing the iterations of instruments that pre-dated the *ANRAC Competencies 1990* and interviewing those who were active in the constructing work at the time can also reveal discourses that influenced the first published competency standards in 1990.

The data for this study included historical documents and publications (see table 1). Literature from 1900 to 1980 was sampled in ten-year periods from the collection held at the Australian National Library. The nursing literature from 1975 to 1990 was searched using key terms such as ‘competence’, ‘assessment’, and ‘performance’ and using references from other articles to identify seminal government reports. The minutes of ANRAC meetings and ANRAC Competencies Committee meetings were gathered from the Australian National Library archives and the offices of the Australian Nursing and Midwifery Council. The Executive Officer of the Australian Nursing and Midwifery Council gave permission to access these documents.

Table 1: Documents reviewed

Nursing literature 1975-1990
Government publications 1975-1990
Minutes of ANRAC meetings 1968-1990
Minutes of ANRAC Competencies Steering Committee meetings 1988-1990
ANRAC Competency Standards for the Beginning Registered Nurse 1988
ANRAC Competency Standards for the Beginning Registered Nurse 1990
The Royal Australian Nursing Federation Standards for Nursing Practice (1983)
The NSW Nurses Registration Board Competencies to be Developed in College Basic Nursing Programmes (1986)

Notes were taken for all documents, journal articles and reports. The author was peripherally involved as a member of a state regulatory board during some of this period and therefore reflexive comments were notated as well.

The first two iterations of the national competency standards published in 1988 and 1990 as well as two competency-based instruments identified in the ANRAC minutes as precursors to the *ANRAC Competencies*, were reviewed.

In-depth interviews were held with five nurse leaders who participated in competency development at some point during the study period. The University’s Human Ethics Committee approved the methods for interviews. During the interviews notes were recorded about the social and political milieu as the informant recalled it, and these notes were later transcribed into a report. The transcribed report was forwarded to the informant for validation and then included in the study as data.

In the analysis stage, the national competency standards was treated as a technology and the number of connections that it commanded was mapped to illustrate how the technology became strategic. Situational analysis (Clarke 2005) was used to make the connections between the national competency standards, and the elements that created it, visible. Messy situational maps were developed to understand who and what were in the situation during 1975 to 1990. These were then turned into an ordered situational map, representing who and what mattered during this historical periods (refer to table 2). Then, several positional maps were developed to determine what elements made a difference and identify what elements were invisible and how that invisibility was accomplished. This was achieved by plotting the positions of various individuals, collectives, nonhuman actants, discourses, organisations and others, situating them in relation to each other and the national competency standards.

Table 2: Ordered situational map of competency standards 1975 to 1990

Individual actors Genevieve Gray Rosalie Pratt Margaretta Styles Rosemary Bryant Marilyn Beaumont Pat Staunton Ruth White Elizabeth Percival Christine Alavi Stephanie Fox Leo Bartlett	Nonhuman actants NRA prescribed curriculum State examinations Clinical skills assessment forms Sister's ward report Skills lists Standards for nursing practice (1983) Competencies Hospital based courses Tertiary based courses Nursing care plan ANRAC Competencies 1988 ANRAC Competencies 1990
Collective actors Royal Australian Nursing Federation College of Nursing Australia NSW College of Nursing Florence Nightingale Committee Australasian Nurse Regulatory Authorities Conference Australian Hospitals Association State NRBS Newly qualified nurses Nurse educators	Implicated/silent actors and actants Behavioural objectives Nursing research ICN Code of Ethics ICN endorsed WHO Health for All by 2000 (1977) ICN Regulation (1983/5) The Lamp Australasian/ Australian Nursing Journal Issues in Australian Nursing (1982) Issues in Australian Nursing 2 (1989) Standards (Burton 1978)
Discursive constructions of individual/ collective actors ANRAC formalised to second yearly event (1976) Relationship between Leo Bartlett and ANRAC Steering Committee (re publication) Reality Shock (Kramer 1974)	Discursive constructions of nonhuman actants Gray on accountability 1982, 1989 Benner on competencies 1984, 1987
Political/economic elements MOVEET/NBEET/VEETAC Skill shortage and migration policy 1986 NOOSR 1989 National Training Board 1990 Higher Education Sector	Sociocultural/symbolic elements Nurses as women Goals in Nursing Education 1974 Goals in Nursing 1982 Nursing in Australia: A national statement 1989
Temporal elements Professional project/ accountability and research Skills shortage in Australia Microeconomic reform Regulation Benner's From Novice to Expert 1984 National Competencies Project 1986 National Competencies Assessment Project 1988 Quality and audit	Spatial elements State vs national regulatory mechanisms Australia as part of global marketplace Australia as part of international nursing community RANF and CoNA based in Melbourne NSWCN based in NSW
Major issues/debates (usually contested) Transfer of nursing education into tertiary education sector (from hospitals) National regulation of nursing Competencies – behavioural objectives explicit or limiting?	Related discourses (historical, narrative, and/or visual) Quality movement Research in nursing Immigration of Masters and PhD prepared nurses International doctoral education in nursing movement in Western sector Sax Report 1984
	Other key elements Competency based training Individualised patient care

FINDINGS

Two themes emerged from this analysis. Firstly, the concept of competence and the development of competency standards technology were promoted to address the unique problems or issues in diverse social worlds. Secondly, the *ANRAC Competencies* was designed to advance the professional project in nursing, supporting the transfer of nursing into higher education.

Theme 1 – Competence and competency standards were co-constructed to address social and political concerns

The history of competence and national competency standards in Australia involved a complex network of influences and contingencies that were worked together to co-construct competence and the *ANRAC Competencies* as the ‘right tool for the job’. People from many diverse social worlds were working to identify solutions to a myriad of problems that could be related to nurse performance (see table 3).

Table 3: Problems that could be addressed by competence

Problem/issue	Authors	Social world
Increase labour market efficiency and equity	Gonczi, Hager and Oliver 1990	Government/ management
Support periodic staff evaluation for retention, promotion or merit pay	Wandelt and Slater 1975 Alspach 1992 Schneider 1979 Gonczi, Hager and Oliver 1990	Management
Relate quality of performance to quality of care	Wandelt and Slater 1975 Williams 1989	
Establish public accountability	McAllister 1998 Gray 1982	Regulation
Prevent role erosion	Cameron 1989	
Provide a basis for the professional accreditation of college courses	Cameron 1989	
Identify areas for learning and professional development	Wandelt and Slater 1975 Schneider 1979 Alspach 1992 Giot 1993 Schwirian 1978 Cameron 1989 Percival, Anderson and Lawson 1994 McMillan, Bujack and Little 1995 McAllister 1998	Education
Provide a basis for researching different approaches to nursing education	Wandelt and Slater 1975 Schwirian 1978 Fitzpatrick, While and Roberts 1994 Dozier 1999	Research

By 1983, Australia was experiencing a shortage of nurses, and was actively recruiting nurses from other countries and from those who had ‘retired’ from nursing to stay home with children (Informant 1). The Federal government was working to improve Australia’s economic position by attracting already qualified people into the skilled workforce. To achieve these outcomes, the Federal Government required a national standard for entry to the occupation of nursing. Competence and national competency standards were attractive to government and nurse leaders engaged government support for the development of the competency standards.

The federated model of regulation led to state resistance to a national approach to regulation, specifically resisting a national examination (ANRAC 1976), a national approach to registration (ANRAC 1978), and national behavioural/clinical competencies (ANRAC 1982). Each state/territory authority was convinced that its standards were the 'best' and were unwilling to change. Leading up to ANRAC 1986, there was two years of industrial action, a looming nursing skills shortage, and public criticism of nursing care since the transfer of nursing education had begun. The transfer of nursing education was well advanced and a significant nursing shortage had emerged due to the loss of paid student nurses in hospitals. At the 1986 ANRAC meeting, a national set of competencies that could be used to regulate nurses seemed a natural development.

Two internationally acclaimed publications during this period are thought to have influenced nursing leaders: the *International Council of Nurses Report on Regulation*, by Styles (1985), which advocated standards for regulation of the profession and Benner's (1984) *Novice to Expert*, outlining a competencies approach to categorising nursing practice. It is of note that Styles attended the 1990 ANRAC meeting as a guest of the Australian Nursing Federation.

At ANRAC 1988, the *ANRAC Competencies* were presented to the meeting and a research project to validate the competencies in clinical practice was commissioned, with financial support secured from the regulatory authorities, the Federal government, two Branches of the Australian Nursing Federation (Qld and SA), and the Florence Nightingale Committee. The commitment to the national competencies by a diverse range of interest groups was reinforced through these financial contributions. By 1990, the 18-month National Competencies Assessment Project was completed and a three-part report (Butler et al 1990) was accepted. A single instrument to determine competence, in the form of the competency standards became a vehicle to drive forth a national approach to regulation/registration.

Through their shared passion to professionalise the occupation of nursing, nurse leaders developed relationships through their work in hospitals, colleges of advanced education, professional and union organisations, regulatory authorities and government agencies. Individuals worked within, and collaborated across professional groups such as the Royal Australian Nursing Federation (RANF), the New South Wales College of Nursing (NSWCN), the Florence Nightingale Committee (FNC), and the College of Nursing Australia (CoNA) to make the transfer of nursing education into the higher education sector happen.

But the transfer of nurse education to the tertiary sector was not certain. Resistance to the transfer of nursing education was greatest from nurses educated in the hospital system (Dowdall 1979) and the general public. News, letters, and articles advocating the transfer of nursing education were regularly featured in *The Australian Nurses Journal* (Hart 1985; Lawrence 1983; Watson 1982; Woodruff 1980). Through such publications the interests of the government, regulatory and now the professional worlds were aligned.

By the 1980 ANRAC meeting, the increasing numbers of college-based entry to practice programs raised the concern that "...the examination of the practical component was being neglected...." (ANRAC 1980, p.23). A project commissioned by the NSW regulatory authority confirmed what most already knew: there were no times set for clinical assessment, assessors were rarely prepared for the task, and over 48 forms existed to assess nursing practice in NSW alone (White et al 1976).

Early tertiary-based courses were not required to offer the curriculum prescribed by the state regulatory authorities (Pelletier 1985; Gibbons 1982; Slater 1977; Harte 1976; Martin 1975; Richardson 1972) but they did need to get the graduates of these early tertiary courses fully qualified as registered nurses. For the colleges of advanced education, a clear outcome standard, rather than a prescribed curriculum, was an attractive solution that could inform curriculum design and negotiations with the profession and employers.

State-based nurse regulatory authorities were confronted with the regulation of an increasingly mobile and diverse nursing workforce. Issues related to cross-border nursing practice, de-registered nurses in one state found to be practising in other states, and the increasing numbers of qualified nurses coming from overseas and retirement due to government initiatives were challenging. Once the complete transfer of nurse education from hospitals to the higher education sector began in 1985, regulatory authorities acknowledged that there would “suddenly be hundreds of nurses, who have had different educational pathways, applying for registration at the same time each year” (Informant 3). By 1985, the need for a national approach to regulation was considered urgent.

The skilled rhetoric of nursing leaders and their ability to move across different social worlds to make the interests of the various social worlds align through the ‘solution’ of competence and competency standards was critical to this becoming the preferred method of classifying nurse performance. These nurse leaders worked long hours and with incredible effort to make a national standard that could meet the needs of multiple interests. They were active in professional and industrial organisations, and crossed over into regulation through participation on state regulatory boards. Their collective voices were effectively crafted into arguments to professionalise nursing and published in the seminal text, *Issues in Australian Nursing*, edited by Jenkins, King and Gray (1982). The text was prescribed in many post-graduate nursing courses, increasing the network of people working to advance the professional project.

Theme 2 - Advancing the professional project in nursing through instrument design

Bowker and Star (2000) suggest the socio-political influences in the design of a classification system can be made visible by studying what is left out of, and newly appears in, the final version of this system. Analysis of the first competency standards technology, in the form of the 1988 and 1990 ANRAC Competencies, was undertaken by comparing it to two other systems published in the preceding five years (RANF 1983, NSWNRB 1986). It was found that:

- The *NSWNRB Competencies* (1986) included a competency (objective) related to the performance of clinical procedures that was not included in the 1988 or 1990 ANRAC lists; and
- Six of the 14 behaviours under Standard 1 (professional obligations) in the *RANF Standards* (1983) were left out (see table 4).

Table 4: Elements left out of the final version of ANRAC Competencies 1988

Item	Document
Acts to rectify unsafe nursing practice (S1.4)	RANF 1983
Uses resources effectively and efficiently (S1.6)	
....and engages in peer review (S1.7)	
Participates in quality activities (S1.9)	
Participates in activities of the profession’s organisations (S1.13)	
... promotes the profession to the community (S1.14)	NSWNRB 1986
Demonstrate an ability to perform clinical nursing procedures (C2 objective)	

Removing the four elements related to systems that control nursing practice increased the risk of proletarianization of practice, which is borne out in the following decade (Herdman 1998). During this period, many considered skills to be easily learned ‘on the job’ after graduation (Clare 1993); the ability to perform clinical procedures was lost in the final iteration of the competency standards.

Two new competencies appeared in the ANRAC (1988) list. These were:

- Demonstrates a satisfactory knowledge base (C1); and
- Assists individuals or groups to make informed decisions (C11).

The inclusion of 'satisfactory knowledge base' and the involvement of nurses in patient-decision making again reflects the privileging of higher education by making knowledge, and in particular critical thinking skills, required for decision-making, explicit. Through these inclusions, the pursuit of professional status could be justified.

Over the 18-month research into the competencies, there were a number of negotiations between the research team and the Competencies Committee regarding inclusions and exclusions on the competencies list. The changes shift over time and some are highlighted in Table 5. Through their fieldwork, the research team became aware of the limitations of the *ANRAC Competencies 1988*. The research team tried to represent what they inferred, from observing practice and talking with assessors, into competencies. The Competencies Committee made the final decisions about what remained in the list and had significant influence on the report submitted to ANRAC in 1990.

Table 5: Changes in NCAP competencies 1989 to 1990

November 1989	March 1990
Missing competencies identified and agreed to add: • Managing multiple patients; • Manager and leader skills for supervision; • Dealing with relatives, visitors and general public; • Expand nursing diagnosis in planning; • Therapeutic communication and counselling; and • Nurse as a role model.	Missing competencies identified and agreed to add: • Focus on environment; • Individuals and groups woven throughout; • Leadership and role model combined; • Nursing diagnosis replaced with systematic approach; • Communication; • Collaboration with health care team; and • Effectively manages care of multiple patients.
Missing competencies identified and not agreed to add: • Caring, empathy, sensitive; • Political action; • Patient as a passive actor inferred; and • Psychomotor competencies.	Missing competencies identified and not agreed to add: • Domains from NCAP or Williams (1989).

In analysing the difference between the two competencies lists, 1988 and 1990, professional bodies and the higher education sectors are advantaged by the inclusions. However, these new competency standards would disadvantage those clinical nurses educated in hospitals who did not necessarily practice using the nursing process, and who struggled through the nursing shortage to deliver the requirement for holistic nursing care (Herdman 1998). The promotion of competence and competency standards as the preferred method for measuring nurse performance had ethical and political ramifications.

In summary, the emergence of competence and the development of the national competencies were irrevocably linked to the transition of nursing education into the tertiary sector, and the emerging national skills shortage in Australia more generally. It involved the social worlds of professional nursing organisations, nurse regulatory authorities, tertiary education, and federal government policy. This was a rocky history, with tensions between the socio-political interests of different groups, and particularly the broader Australian community. The selection of competence and competency standards technology can be attributed to a small group of strong and energetic nurse leaders who shared a vision for a nursing profession grounded in higher education to improve the overall quality of health care for Australians.

DISCUSSION

In researching how competency standards came to be the preferred technology for classifying nurse performance, the social and political influences of the time are found to be more important to the final instrument design than the research undertaken in the Nurse Competencies Assessment Project. A long series of events, actions and agendas promoted by passionate nurse leaders, led to the co-construction of competency and competency standards for the classification of nursing performance. Resistance to a national regulatory approach by individual states, previously empowered by a federated approach to regulation of nurses, was overcome by the national challenges associated with an increasingly globalised world.

The agreement to competence and competency standards as the preferred method of classifying nurse performance was not easily settled. There were debates and pastiches recorded in minutes of meetings and strong arguments for and against competency-based assessment were recorded in professional journals and academic publications. But a small band of passionate and energetic nurse leaders moving across diverse social worlds were able to promote competence and competency standards as a solution to the problems faced by state regulatory authorities, higher education based diploma courses in nursing, professional nursing bodies, and government.

The exclusion of clinical skills from the *ANRAC Competencies* generated widespread concerns about the ability of the graduates of tertiary-based programs to work as a nurse (Reid 1994). The decision by the Competencies Committee, working closely with the research team, to not include any criteria related clinical skills in the final competency standards had significant impact on the transition, with subsequent investment by the health industry, particularly the public sector, in transition-to-practice graduate programs emphasising skill development.

This research study demonstrates that competence and competency standards are not a natural phenomenon, that their co-construction has been socially and politically influenced with subsequent ramifications for hospital-trained nurses and the wider health care system. Concerns from hospital-trained nurses about potential effects of the changes to the education system were effectively rendered invisible in the pursuit of the professional project, with reports about the experiences of hospital-trained nurses during the transition published much later (Herdman 1998). Through this type of research into competence and competency standards, a space is opened up for debate about how to classify nurse performance, providing flexibility and opportunities for innovation.

This research shows the political and ethical influences on the *ANRAC Competencies* as a classification system by showing who was advantaged by what was included and excluded in the competency lists. Bowker and Star (2000) argue the architecture of classification schemes is simultaneously informatic and moral. The list tabled at ANRAC 1988 primarily provided for the interests of the tertiary and regulatory sectors. The ways nurses engage with people's bodies, the dirty work (Lawler 1991), is not explicitly counted in the final list. The specific practices and skills of daily nursing work are excluded from the list; they are secondary to knowledge and critical thinking. The classification system potentially excludes hospital-trained nurses and the general public, two social groups who opposed the transfer of nursing education into the tertiary sector.

LIMITATIONS

While this historical analysis has set out to reveal the actions, events, and discourses at work during the time of competency standards development, it is also producing a set of understandings that legitimate certain social attitudes and practices, and is of itself an ethical act.

CONCLUSIONS

The original *ANRAC Competencies*, published in 1990, was designed to legitimate the occupation of nursing as a profession, consistent with the argument for the transfer of nursing education to the higher education sector. With further iterations over the last twenty years, the competency standards instrument is a widely accepted black-box technology, taken-for-granted as the natural way to classify nursing performance. This study has shown competence and competency standards became the preferred method of classifying nursing performance due to confluent social and political interests in a period of significant economic reform. Rather than a natural way of measuring nursing performance, it was co-constructed by a range of people from diverse social worlds to address their concerns and to advance the professional project in nursing.

RECOMMENDATIONS

The findings of this study provide a cautionary note to those who use competency standards in their daily work. Understanding competence and competency standards are not a natural expression of performance increases one's awareness of possible limitations when using this or related instruments. It is timely for nurse researchers to revisit competence as an organising framework for classifying nurse performance and understand the effects of this framework on individual nurses, organisations and the Australian healthcare system. Finally, while this research has shown how competency standards became the preferred instrument for classifying nurse performance, how the standards became to dominate performance classification technology in Australia also requires research.

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Incidence of phlebitis in patients with peripheral intravenous catheters: The influence of some risk factors

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KEY WORDS

Intravenous catheters; phlebitis; nurses; risk factors.

ABSTRACT

Objective

To identify the incidence of phlebitis and the risk factors which contribute to its development in patients with peripheral intravenous catheters.

Design

Prospective observational study.

Setting

Medical ward of a central hospital in Portugal.

Subjects

Patients with peripheral intravenous catheters hospitalised in the medical ward.

Interventions

Nurses observed the peripheral intravenous (IV) catheterisation site daily. If there were complications, the catheter was replaced, and both the development of phlebitis and the procedure were recorded.

Results

A total of 1,244 catheters were observed, and 317 were removed/inserted. Incidence of phlebitis was 11.09%. A multivariate analysis of risk factors for phlebitis showed patients with KCI (OR: 2.112; CI: 1.124-3.969), who were on antibiotics (OR: 1.877; CI: 1.141-3.088) and who had a catheter in an upper limb (OR: 0.31; CI: 0.111-0.938) were at higher risk for phlebitis.

Conclusion

Despite the patients' profile (high mean age and high level of dependency), the risk factors are related to the use of prescribed medication and the catheterised limb. Although these findings show the development of phlebitis is not solely related to nurses' practices, the authors believe these professionals can have an important impact on the prevention of phlebitis. The results show the accurate selection of the catheterisation site, which relies entirely on the nursing intervention, is an important factor for phlebitis.

INTRODUCTION

Today the insertion of peripheral intravenous catheters (PIVCs) is a common practice in hospitals, resulting in local or systemic complications (Lopez et al 2004). Phlebitis is the main local complication (Malasch et al 2006; Lanbeck et al 2004; Juvé Udina et al 2003) with incidence varying according to different settings (3.7% - 67.24%) (Oliveira and Parreira 2010).

Phlebitis is an inflammation of a vein, with multiple causes: traumatic (e.g. *catheter too wide for the vein*); chemical (e.g. *solution irritates the vein*) and septic (e.g. *inappropriate aseptic technique during catheter insertion*) (Clayton and Stock 2006; Rivas Doblado et al 2004).

Incidence of local or bloodstream infections (BSIs) associated with PIVCs is usually low, but they produce considerable morbidity because of the frequency of catheter insertion (O'Grady et al 2002). The most common route of infection for short-term catheters is the migration of skin organisms at the insertion site into the cutaneous catheter tract and along the external surface of the catheter (O'Grady et al 2011), and the development of biofilms, leading to an evasion of host defence mechanisms and to a phenotypic resistance to antimicrobial agents (Von Eiff et al 2005).

Over the last two decades, studies about phlebitis have divided risk factors into four main groups: patients' characteristics; therapy administered; health professionals' practices; and materials used. Other guidelines based on findings from scientific studies systemise a set of recommendations for health professionals on the prevention of PIVC-related complications (O'Grady et al 2011; RCN 2010; Joanna Briggs Institute (JBI) 2008; ISN 2006; O'Grady et al 2002).

Given phlebitis can put patients' safety at risk, this study aimed to identify the incidence of phlebitis and its risk factors in patients with PIVCs.

METHODOLOGY

Study design and data collection tool

A prospective observational study was conducted at a medical ward of a central hospital to assess the incidence of phlebitis and its risk factors in patients with PIVCs.

The data collection tool was designed and validated by the research group based on the theory and guidelines on phlebitis, after it had been tested in a clinical setting. Besides the phlebitis scale proposed by the RCN (2010), the tool included variables related to: the individual (gender, age, level of dependency, status of consciousness and whether the patient was confined to a bed); catheterisation (ward, anatomic site of catheter insertion, catheter gauge and material, catheterisation instructions, catheter dwell time, securement device, reason for catheter removal, signs and symptoms of phlebitis, number of catheters inserted); and intravenous drugs (fluid therapy, KCl, antibiotherapy, number of antibiotics, and drugs administered within 24 hours, continuous/intermittent perfusion, use of infusion pumps).

Study participants and ethics approval

The sample was composed of patients with PIVCs hospitalised for six weeks. A total of 1,244 catheters were observed, of which 372 catheters were removed/inserted. Fifty-five were rejected because documentation was incomplete or due to difficulties in obtaining consent from patients/families. In the end there were 317 cases.

In addition to obtaining the institution's permission, informed consent was obtained from the patients with PIVCs and/or their families. Both anonymity and confidentiality were ensured.

Data collection

Data were collected over six weeks (30 January - 12 March 2010). Nurses observed the IV catheterisation site daily, tested its functionality and recorded any changes which could influence its removal/replacement.

Statistical analysis

Incidence of phlebitis was assessed based on the number of catheters inserted over the 42 days. Correlation between the variables under analysis and phlebitis was also assessed using the t-test and the chi-square test, for a level of significance of 0.05. The risk factors were also assessed using the odds ratios. Logistic regression analysis was used to identify independent risk factors for phlebitis. Data were analysed using SPSS (Version 19).

FINDINGS

Most patients with PIVCs were elderly adults (mean age=75.92 years; SD=14.52), 50.6% were men. They showed high level of dependency in different areas: 81.6% were totally dependent in hygiene care, 65.8% in feeding, 74.1% in mobility and 81.6% in elimination needs. In this sample, 79.7% were confined to a bed and 23.9% were confused.

Table 1 shows some characteristics found in catheter insertion. In most situations, PIVCs were inserted in the ward, upper-extremity veins were more frequently catheterised (93.9%), particularly the hand or forearm. As for catheter gauge, nurses usually used the 20G (0.80mm) (57.9%), made of polyurethane (84.6%). Most catheters were secured with adhesive tape (74.4%). Each patient had, on average, 1.26 simultaneous catheters with a mean dwell time of 3.88 days. In most cases, the reason for removal was phlebitis (43.8%), namely grade 1 and 2. Of the total of 1,244 cases, the incidence of phlebitis was 11.09%.

Table 2 shows most patients were prescribed isotonic solution (72.2%) and 15.9% also received potassium chloride. Antibiotherapy was observed in 35.3% of patients. Five antibiotics were administered more than 15 times: Meropenem (17.7%), Amoxicillin-clavulanate (12.0%), Azithromycin (10.4%), Levofloxacin (9.1%), Cefuroxime (6.6%), Piperacillin/tazobactam (5.4%). Using antibiotherapy, the mean number of intravenous administrations was 23.89. In 63.7% of patients perfusion was continuous; however, infusion pumps were only used in 11.8% of patients.

Table 1: Characterisation of the puncture (n= 317)

	n	%
Catheter insertion setting		
Ward	235	74.4
Emergency room	79	25.0
Other	2	0.6
Total	316	100.0
Missing	1	
Catheterised limb		
Upper	295	93.9
Lower	19	6.1
Total	314	100.0
Missing	3	
Catheterisation site		
Hand	112	35.7
Wrist	48	15.3
Forearm	82	26.1
Antecubital area	30	9.6
Arm	23	7.3
Leg	6	1.9
Foot	13	4.1
Total	314	100.0
Missing	3	0.0
Catheter gauge		
18 G	4	1.5
20 G	154	57.9
22 G	108	40.6
Total	266	100.0
Missing	51	
Catheter material		
Teflon	38	15.4
Polyurethane	209	84.6
Total	247	100.0
Missing	70	
Catheter stabilisation material		
Adhesive tape	209	74.4
Transparent dressing	72	25.6
Total	281	100.0
Missing	36	
Catheter dwell time		
Average 3.88; standard deviation. 2.14; Median 3; Min. 1 Max. 14		
Reason for catheter removal		
Phlebitis	138	43.8
Infiltration	41	13.0
Loss of function/obstruction	37	11.7
Extravasation	32	10.2
Discharge or transfer	51	16.2
Death	4	1.3
Other	12	3.8
Total	315	100.0
Missing	2	
Grades of phlebitis		
1	51	37.0
2	74	53.6
3	10	7.2
4	3	2.2
Total	138	100.0
Missing	2	
Number of simultaneous catheters		
Average 1.26; standard deviation 0.45; Median 1; Min. 1 Max. 3		

Table 2: Intravenous medication (n= 317)

	n	%
Serum infusion		
Isotonic	226	72.2
Hypertonic	3	1.0
Hypotonic	1	.3
No saline	83	26.5
Total	313	100.0
Missing	4	
KCl		
Yes	50	15.9
No	264	84.1
Total	314	100.0
Missing	3	
Antibiotics		
Yes	205	35.3
No	112	64.7
Total	317	100.0
Number of antibiotics		
One	137	66.8
Two	63	30.7
Three	5	2.4
Total	205	100.0
Number of IV medication administrations		
Mean 23.89; standard deviation 21.41; Median 18		
Infusion rate		
Continuous	188	63.7
Intermittent	50	16.9
No infusion	57	19.3
Total	295	100.0
Missing	22	
Use of infusion pump		
Yes	37	11.8
No	276	88.2
Total	316	100.0
Missing	4	

The chi-square test and the t-test analysis of the relationship between the different factors and phlebitis showed statistically significant results in the variables 'lower limb catheterised', 'administration of potassium chloride', and 'receiving IV antibiotics', namely 'Levofloxacin' and 'Azithromycin' (table 3).

Using the odds ratios and a CI of 95%, table 3 shows patients with catheterised upper-extremities had a less than 72% chance of developing phlebitis than those with lower catheterised limbs (OR: 0.281; CI: 0.097-0.807). The odds increase 1.95 times (OR: 1.951; CI: 1.057-3.601) if potassium chloride is prescribed, and 1.92 times (OR: 1.916; CI: 1.184-3.100) with IV antibiotics. If Levofloxacin is used, odds increase 2.3 times (OR: 2.264; CI: 1.031-4.968) and if it is Azithromycin, they increase 2.5 times (OR: 2.468; CI: 1.168-5.213).

Table 4 shows the multivariate analysis of risk factors for phlebitis. The most significant risk factors for phlebitis were patients receiving KCl (OR: 2.112; CI: 1.124-3.969) or antibiotics (OR: 1.877; CI: 1.141-3.088) and patients with an upper catheterised limb (OR: 0.31; CI: 0.111-0.938).

Table 3: Risk factor for phlebitis in patients with PIVCs

Factors	Phlebitis		Bivariate Analysis OR (95% CI)	
	Yes n (%)	No n (%)		
Catheterised limb			$\chi^2 = 6.217$, df= 1, p = 0.015	0.281 (0.097-0.807)
Upper	124 (42.2)	170 (57.8)		
Lower	13 (72.2)	5(27.8)		
KCl			$\chi^2 = 4.671$, df=1, p = 0.043	1.951 (1.057-3.601)
Yes	29 (58.0)	21 (42.0)		
No	109 (41.4)	154 (58.6)		
Antibiotics			$\chi^2 = 7.106$, df= 1, p = 0.009	1.916 (1.184-3.100)
Yes	37 (33.6)	73 (66.4)		
No	101 (49.3)	104 (50.7)		
Levofloxacin			$\chi^2 = 4.326$, df= 1, p = 0.049	2.264 (1.031-4.968)
Yes	18 (62.1)	11(37.9)		
No	120 (42.0)	166 (58.0)		
Azithromycin			$\chi^2 = 5.886$, df=1, p = 0.025	2.468 (1.168-5.213)
Yes	21 (63.6)	12 (36.4)		
No	117 (41.5)	165 (58.5)		

Table 4: Logistic regression of risk factors for phlebitis

Independent variables	B	S.E.	df	Sig.	OR	OR 95% CI	
						Lower	Upper
KCI (Yes)	0.748	.322	1	0.020	2.112	1.124	3.969
Antibiotics (Yes)	0.630	.254	1	0.013	1.877	1.141	3.088
Catheterised limb (Upper)	-1.132	.545	1	0.038	0.322	0.111	0.938
Constant	0.283	.576	1	0.623	1.327		

DISCUSSION

Incidence of phlebitis

The incidence of phlebitis in this study (11.09%) is congruent with the findings of (3.7% to 67.24%) Oliveira and Parreira (2010); however, it is above the 5% established by the INS (2006). The most common grades of phlebitis were grade 1 and 2 (37.0% and 53.6%, respectively). Uslusoy and Mete (2008) also found grade 1 phlebitis to be the most frequent (44.5%).

Gender and age

No gender differences were observed in the development of phlebitis, which is in congruent with other studies (Furtado 2011; Uslusoy and Mete 2008; Abbas et al 2007; Regueiro Pose 2005; Owens et al 1998). However, Campbell (1998) and Maki and Ringer (1991) found the female gender was a predictor of phlebitis. In other studies, the male gender showed a greater risk of phlebitis (Lanbeck et al 2003 and 2002; Lundgren et al 1993).

Correlation between age and phlebitis was not significant, which is congruent with other studies (Furtado 2011; Uslusoy and Mete 2008; Malasch et al 2006; Regueiro Pose et al 2005; Owens et al 1998). Other studies show patients aged 60 and over are more at risk for phlebitis (Carballo et al 2004; Lundgren et al 1993; Maki and Ringer, 1991).

Anatomical region used for catheterisation

When upper-extremity veins were catheterised, patients had less than 72% chance of developing phlebitis, in comparison with the lower limbs. However, no statistically significant differences were observed between the specific anatomical site used (hand, forearm, wrist) and phlebitis, which is congruent with studies by Regueiro Pose et al (2005) and Owens et al (1998). Other studies show the risk is lower when PIVCs are inserted in the hand/wrist than in the forearm (Lanbeck et al 2003; Maki and Ringer 1991). Nevertheless, dorsal side of the hand veins are predictive of high risk for thrombophlebitis (Cicolini et al 2009). Thus, it seems catheter insertion in flexion or high mobility areas contribute to the development of traumatic phlebitis (Furtado 2011; Uslusoy and Mete 2008; Rivas Doblado et al 2004), and both veins of the upper limbs should be considered, instead of those of the lower limbs, due to the risk of embolisms and thrombophlebitis (RCN 2010; INS 2006).

Catheter gauge

Catheter gauge has no influence on phlebitis, which is congruent with other studies (Uslusoy and Mete 2008; Abbas et al 2007; Ferreira et al 2007; Regueiro Pose et al 2005; Rivas Doblado et al 2004). Nonetheless, many authors have highlighted the advantages of using smaller gauge catheters (Furtado 2011; Cicolini et al 2009; Tagalakakis et al 2002; Lanbeck et al 2002). The guidelines consulted confirm this as these catheters allow blood to flow in the adjacent tissue, preventing vein damage (O'Grady et al 2011; RCN 2010; JBI 2008; ISN 2006; O'Grady et al 2002).

Catheter material

No statistically significant differences were found between catheter material and phlebitis. However, some studies have indicated catheter material can cause complications. Tagalakis et al (2002) found polyurethane was associated to a decrease of 30-45% on the incidence of thrombophlebitis, when compared to teflon. Maki and Ringer (1991) showed vailon catheters are less likely to cause phlebitis than teflon catheters. Nonetheless, the JBI (2008) and O'Grady et al (2002) state teflon and polyurethane are associated with less infectious complications (more resistant to bacterial adherence) than polyvinyl or polyethylene catheters.

Number of simultaneous catheters

No significant differences were found between the number of simultaneous catheters and phlebitis. However, Maki and Ringer (1991) show that the risk of phlebitis increases 1.54 times when another catheter has already been inserted. Regueiro Pose et al (2005) also found that the incidence of phlebitis increases depending on the number of catheters inserted, as does the level of severity (Ferreira et al 2007). Incidence also increases when catheters are repeatedly inserted in the same arm (Uslusoy and Mete 2008).

Catheter securement

In 74.4% of the cases, the material used to secure the catheter was adhesive tape. However, it was not possible to significantly correlate this fact with phlebitis. Other studies compared the use of sterile gauze with a transparent film and concluded there were no statistically significant differences between both types of dressings and the early detection of phlebitis (Bispo and Zanetti 2004; San Martin et al 2002). The easiness, the time necessary to place the dressing and the possibility of seeing the catheterisation site are aspects regarding the transparent dressing which nurses valued in these studies.

Catheter dwell time

No statistically significant differences were found between catheter dwell time and phlebitis. However, most studies recommend PIVCs should be replaced every 72 hours (Powell et al 2008; Ferreira et al 2007; Myrianthefs 2005; Regueiro Pose et al 2005; Carballo et al 2004). Other studies suggest catheter removal only when it is clinically indicated is not different, in terms of complications, from its replacement every three days (Rickard et al 2010). O'Grady et al (2011) and the Lee et al (2009) consider there is no need to replace PIVCs more than every 72-96 hours to reduce the risk of infection and phlebitis.

Intravenous medication

Statistically significant differences were found between the administration of potassium chloride and antibiotics, particularly Levofloxacin and Azithromycin. Potassium chloride increased the probability of phlebitis by 1.95 times and antibiotics led to an increase of 1.92 times, which was 2.3 times higher with Levofloxacin and 2.5 times higher with Azithromycin. Furtado (2011) and Maki and Ringer (1991) also refer medication, such as KCl, as leading to phlebitis. Antibiotics also increased the risk of phlebitis significantly when compared to other drugs (Regueiro Pose et al 2005; Lanbeck et al 2002; Maki and Ringer 1991).

No significant differences were found between the administration of a serum infusion and phlebitis. However, the low pH and the high osmolarity of solutions, such as hypertonic solutions, are associated to a high risk of phlebitis (Uslusoy and Mete 2008; Tagalakis et al 2002; Campbell 1998).

As for the number of IV drugs, no significant differences were found. However, according to Uslusoy and Mete (2008), drugs administered four or more times a day were two times more likely to cause phlebitis than drugs administered one to three times a day. Furtado (2011) also found drugs administered seven or more times led to a high rate of phlebitis. The reasons presented for this may be linked to the pH of the administered drugs and the need to manipulate the catheter site more often (Uslusoy and Mete 2008).

Regarding the infusion rate (continuous or intermittent), no differences were observed. Other researchers found the risk of phlebitis was higher in the PIVCs which were kept intermittently than in those maintained continuously (Ferreira et al 2007; Regueiro Pose et al 2005; Carballo et al 2004; Owens et al 1998). In contrast, Furtado (2011) stated continuous infusion was a predictor of phlebitis.

No statistically significant differences were found between the use of infusion pumps and phlebitis. Nonetheless, Uslusoy and Mete (2008) found a higher incidence of phlebitis when perfusions were made using infusion pumps. In contrast, a study by Curran et al (2000) showed the incidence of phlebitis decreased with infusion pumps.

Catheter insertion setting

PIVCs inserted on the ward where the study was being conducted (74.4%) or in the emergency room (25.0%). No statistically significant differences were observed in the development of phlebitis, which is congruent with other studies (Regueiro Pose et al 2005; Carballo et al 2004). However, other researchers indicate catheter insertion in the emergency room promoted the development of phlebitis in comparison with those inserted in inpatient units (Maki and Ringer 1991; Tagalakakis et al 2002). In contrast, Furtado (2011) found PIVC insertion in an inpatient unit was a predictor of phlebitis, when compared to other services (emergency room and operating room).

STUDY LIMITATIONS

The fact that different members of the nursing team assessed and recorded the development of phlebitis may have created different assessment criteria.

RECOMMENDATIONS

A randomised controlled trial should be conducted to improve variable control and further develop the issue of PIVC replacement only when clinically indicated and not as a routine – an issue which O'Grady et al (2011) has not yet solved. Follow-up should be conducted with patients after catheter removal, not only when phlebitis is detected.

CONCLUSIONS

The predisposing factors for phlebitis are the catheterisation site and the use of antibiotics and potassium chloride, regardless of the patient's profile (mean age and high levels of dependency). Although the results show the development of phlebitis does not rely solely on nurses' practices, the authors conclude these professionals can have an important role in the prevention of phlebitis, reducing the number of risk factors through vigilance and compliance with drug administration guidelines. The careful selection of the catheterisation site is also an important risk factor for phlebitis and depends entirely on nursing intervention.

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Recognition of prior learning: Credit transfer for enrolled nurses studying science in the Bachelor of Nursing program

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KEY WORDS

enrolled nurse, registered nurse, diploma, undergraduate, science, recognition of prior learning, education

ABSTRACT

Objective

The aim of the study was to investigate the impact of Recognition of Prior Learning (RPL), on academic achievement for enrolled nurses (ENs), who applied for credit transfer for first stage science in the Bachelor of Nursing program (BN).

Design

A survey method was employed using a quantitative and qualitative approach. The design was based on a questionnaire that included three sections: demographic information; a five-point Likert scale broken into four constructs; and free text open-ended questions.

Setting

The study was conducted from a regional nursing and rural health unit of a South Australian tertiary education institution.

Main outcome

Main outcomes from the study showed the constructs of Regret, Difficulty, Advantage and Satisfaction of receiving RPL for first stage science, identified some Diploma undergraduates have difficulty in studying second stage science, whereas other Diploma undergraduates are able to grasp the concepts and are satisfied with their achievement.

Results

44.5% accumulatively of strongly disagree and disagree responses of respondents felt they were unprepared through their science education at TAFE. 33.5% of accumulative responses from respondents of strongly agree and agree identified they were prepared for second stage science through pre-learned science at TAFE. 15% of respondents were undecided as to whether they were prepared for second stage science in the BN program.

Conclusion

Applying for RPL can have an advantage for an applicant and this study has shown that some ENs entering the BN program were advantaged, while others expressed disadvantage and would have preferred to have received credit RPL in another area of the BN program rather than first stage science.

INTRODUCTION

Anecdotal evidence gained through discussion with undergraduate nursing students who were on clinical placement suggested that some nursing students who were Diploma ENs perceived that RPL for science at first stage put them at a disadvantage. Some Diploma undergraduate nursing students, who engaged in the discussion of the experience of receiving RPL, chose to return to the first stage of the BN program to re-learn science. The decision to return to first stage science was to grasp the fundamentals of chemistry, physics, anatomy and physiology, underpinning the concepts of pathophysiology at the second stage of the BN program. Therefore, this study was motivated by the discussion that centred on the advantages and disadvantages of RPL for first stage science. The study provided information about the differing experiences of Diploma undergraduates who articulated between TAFE and university entering the BN program at the second stage and confirmed the views of those who engaged in the discussion related to RPL for first stage science.

Recognition of Prior Learning (RPL)

Recognition of prior learning (RPL) has been part of the Australian education policy for more than ten years and is part of the national vocational education and training (VET) system. RPL provides a means of avoiding duplication of learned knowledge and learned experience (Hargreaves 2006). The Bradley Review in 2008 (DEEWR 2009 p.43) identified the need for transition to occur between vocational education and tertiary education by educational institutions valuing competency based and merit based experience which improves pathways and movement between both sectors.

Receiving RPL involves application to the education institution program in which a student has enrolled. Evidence of previous learned knowledge and/or experience from a recognised education institution or employment based experience is required for assessment by Program Directors responsible for granting applications for RPL through documented evidence from the applicant. Academic credit provision for entry to the BN program varies between universities (CSHITB 2005). RPL for the applicant provides advantage to shorten the length of time spent studying for further career advancement, while at the same time satisfying industry requirements (Hargreaves 2006).

Kenny and Duckett (2005 p.424) cite job dissatisfaction as a reason for ENs pursuing a BN degree. Kenny and Duckett (2005 p.424) further suggest insecurity in the workplace and lack of professional development opportunities as ENs are other reasons given. The role change to RN by ENs has been well documented by researchers (Rapley et al 2008). Many ENs undertake the BN program while remaining in employment as ENs in various health care settings throughout Australia. Rapley et al (2008) suggests many ENs study externally, and the EN pathway through RPL in to the BN program, facilitates a better transition from EN to RN. RPL results in some cost-saving advantages for ENs but at the same time universities miss out on additional funding through exclusion of students enrolled in the first stage of the BN program (DEEWR 2009; Clarke and Wait 1997). Through studying externally the ability to maintain, support and contribute toward the family income is an advantage for the EN who has obtained RPL, (Rapley et al 2006; Field 2002; Pym 1992). However, maintaining an income while studying for career advancement puts pressure on the EN, who is taking on multiple roles as student, spouse, mother/father, caregiver, and employee (Pym 1992 p.383).

METHOD

A survey design of three sections was used to collect data for the study. The first section used a quantitative approach to identify the demographic information of respondents that included years of experience as an EN, age of respondents, distance from the university and TAFE subjects studied in the Diploma of Nursing course. Analysis of data was through using Microsoft Excel. A fourteen question Likert scale was used in the

second section of the survey, that was broken down into four constructs of *regret*, relating to decisional regret for applying for RPL of first stage science, *difficulty*, identified difficulty in studying second stage science, *advantages* attributed to the advantage of receiving RPL for first stage science, and *satisfaction* related to performance in second stage science. Analysis of the Likert scale was by using the Statistical Package for the Social Sciences (SPSS) version 15 for Windows. Lastly the third section provided qualitative analysis where participants were able to write free text comments to five questions. The questions gave scope for participants to provide feedback about their experiences of entering university in the second stage of the BN program and studying second stage science having made the choice to receive RPL for first stage science.

Student database

Ethics approval was obtained prior to commencing the study and prior to accessing the student database. Approval was obtained from the Dean of the Centre for Regional Engagement and the Head of Unit at the Centre for Regional Engagement, University of South Australia. The student database was accessed by the enrolment officer to identify potential participants who were second and third year undergraduate nursing students with a Diploma of Nursing.

Ethics and informed consent

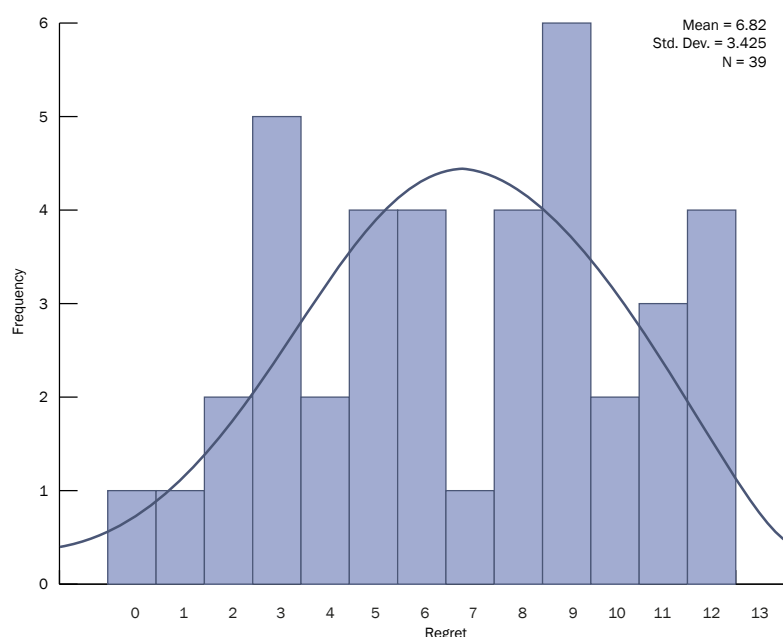
Ethics approval was sought from the University of South Australia's Human Research Ethics Committee (HS30-2007), as the study involved undergraduate nursing students in the BN program at the University of South Australia. Anonymity was maintained by an enrolment officer accessing the student database for potential study participants. Research consent was obtained prior to commencing the study following agreement to abide by the guidelines set by the National Statement on Ethical Conduct in Human Research (NHMRC 2007).

RESULTS

Decisional regret

Regret was defined as the tally of Items Q.4, of the Likert scale, *Would receiving Recognition for Prior Learning in another area of the Bachelor of Nursing program be better than in science?* Q.5, *Do you feel not studying first year science in the Bachelor of Nursing program has disadvantaged you?* Q.6, *Would you have preferred to have studied first year science?* Each item was scored between 0 and 4, thus the maximum score possible was 12. The actual mean was 6.82, with a standard deviation of 3.4, and a median score of 7. Skewness was -0.1. Kurtosis (i.e. deviation from normality) was minus1.0. Hence, these figures show acceptable properties for construct analysis, and it is apparent that decisional regret was measured in a meaningful manner.

Figure 1: Histogram for the variable decisional regret



Quantitative analysis was further investigated and broken down using the construct of Regret into Low Regret and High Regret of applying for RPL for first stage science in the BN program. 5 or below constituted Low Regret and a score of 7 or above were rated as High Regret. The result was 15 respondents with Low Regret and 20 respondents with High Regret.

Table 1: Contrasting Low Regret and High Regret Respondents

Construct	Low Regret Group (n = 15)	High Regret Group (n = 20)	F (1,34)
Difficulty	6.1 (1.9)	10.6 (4.0)	16.2 ($p < .001$)
Advantage	5.3 (1.3)	2.6 (1.5)	29.7 ($p < .001$)
Satisfaction	2.8 (0.9)	2.0 (1.3)	3.5 ($p < .07$)
Q.1	3.1 (1.1)	1.0 (1.0)	30.6 $p < .001$
Q.2	2.9 (1.0)	1.3 (1.0)	19.9 $p < .001$

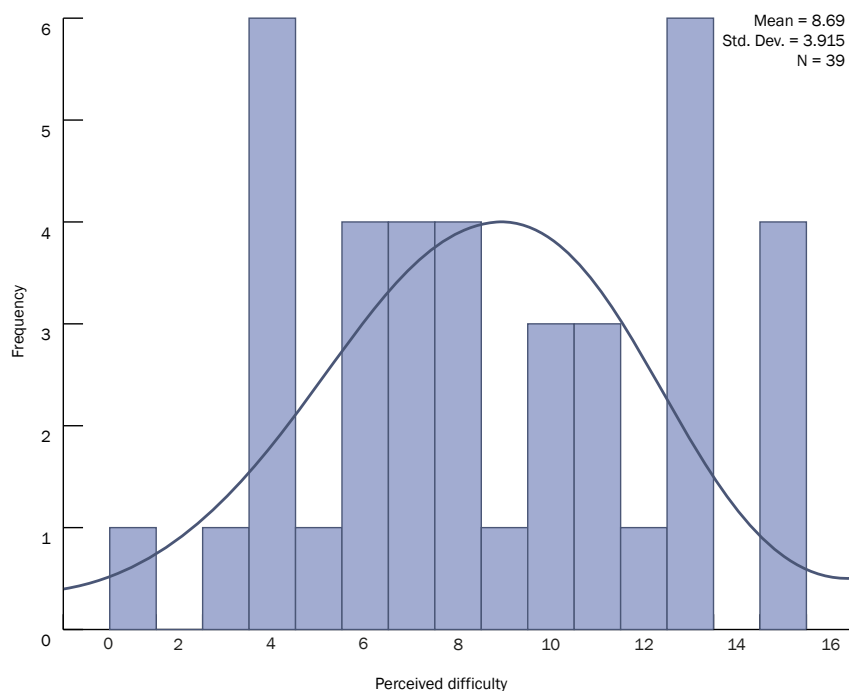
High Regret respondents expressed higher levels of difficulty than Low Regret respondents, $F(1,34) = 16.2$, $p < .001$. Lower levels of Advantage was shown by respondents in the High Regret analysis of respondents $F(1,34) = 29.7$, $p < .001$. High Regret respondents also expressed lower levels of Satisfaction than Low Regret respondents, although in this case the statistical significance was not as strong, $F(1,34) = 3.5$, $p = .07$. In addition High and Low Regret individuals differed in their responses to Q.1 *How well did the TAFE course prepare you for study of science in the BN program?* and Q.2 *How useful was your prior learning at TAFE in science to current study?* These differences are shown in the table above.

Perceived difficulty

The analysis of the construct for perceived difficulty in the diagram shows the distribution of scores, based on answers to the questions in the Likert scale. Questions related to perceived difficulty were:

- Q.8 *Did you understand some of the content of science?*
- Q.9 *Did you understand most of the content of science?*
- Q.11 *Did you need more support in studying science?*
- Q.12 *Did you need to spend a lot of time studying science?*
- Q.13 *Did you feel you were continually struggling to learn in the science courses?*

The actual mean score was 8.69, with a standard deviation of 3.9, and a median score of 8. Since this was obtained through summing four items, the maximum possible was 16. The skewness was 0.07. The kurtosis was -1.08. These figures were regarded as acceptable and, thus, perceived difficulty was being measured in a meaningful manner. This scale has a natural midpoint of 8, thus individuals with a score greater than 8 were rating second stage science as relatively difficult.

Figure 2: Histogram showing distribution of scores on perceived difficulty**Advantage**

The construct called Advantage was created by summing Items Q.3, *Has receiving RPL assisted you in the BN program in the study of science courses?* and Q.10, *Do you feel that you were advantaged receiving Recognition for Prior Learning in science?* The curve produced is shown in the histogram below. 3.7 was the mean of this construct, with a standard deviation of 1.9 and a median of 4. Skewness was 0.01 and the kurtosis was -0.3. Thus, advantage for receiving RPL was being measured meaningfully.

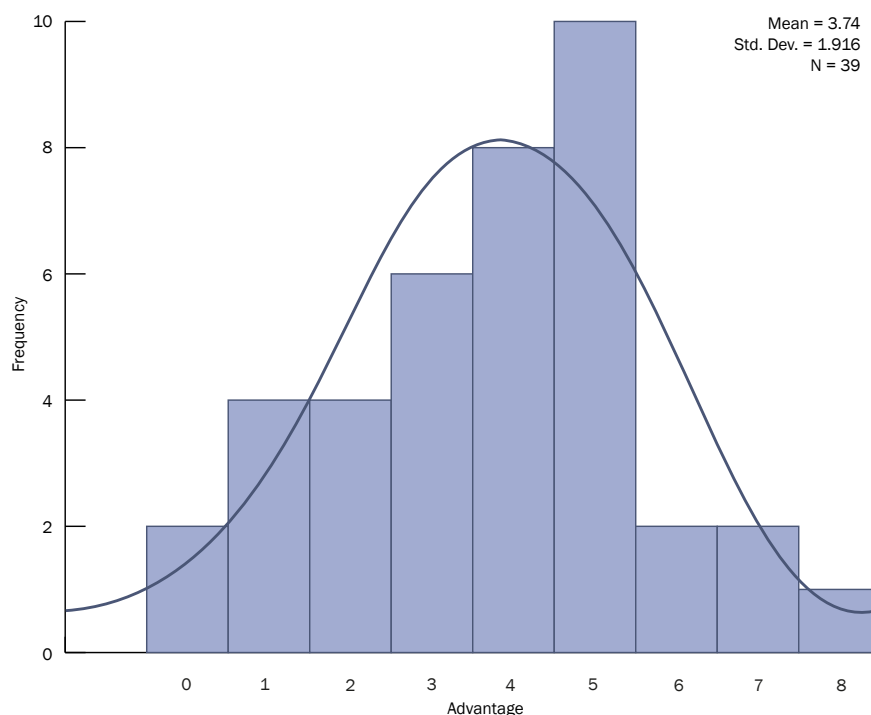
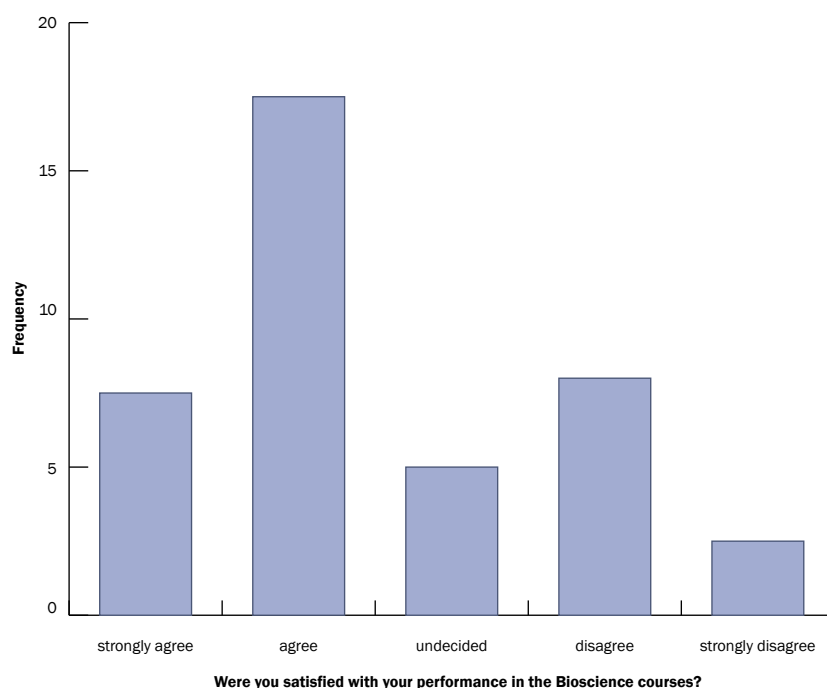
Figure 3: Histogram of Advantage for receiving RPL

Figure 4: Performance in science**Table 2: Frequencies of performance in science**

		Frequency	%	Valid %	Cumulative %
Valid	Strongly agree	7	17.5	17.9	17.9
	Agree	17	42.5	43.6	61.5
	Undecided	5	12.5	12.8	74.4
	Disagree	8	20.0	20.5	94.9
	Strongly disagree	2	5.0	5.1	100.0
	Total	39	97.5	100.0	
Missing	System	1	2.5		
Total		40	100.0		

Despite responses to other questions in the Likert scale identifying student difficulty in learning science, over half (60%, $n = 24$) of the respondents were satisfied with their overall performance in the science courses. Only 25% ($n = 10$) were not satisfied with their performance in science at the second stage of the BN program. Some of the respondents indicated in the free text questions that they were satisfied with the content of the science course and were able to understand the content, as well as relate theory to practice in some way in the workplace.

Qualitative analysis

Qualitative analysis identified some respondents who received RPL expressed a need for access, preferably online, to first-stage science that was provided to first-stage students. They perceived the need for summer school science workshops exclusively for Diploma undergraduates as revision in preparation for the second-stage science content. Many respondents suggested there was a need to increase the time spent on more complex areas of science within the second stage of the BN program. Some respondents identified they worked while studying and found it difficult to manage the coordination of both and keep up with household duties, as well as study. Lastly some respondents expressed that second stage science consumed their lives with not enough time to apply much needed time to other units in the BN program.

DISCUSSION

Cantwell and Scevak (2004) suggest that participating in first-stage science would provide the opportunity for ENs at undergraduate level to revise and enhance pre-learned knowledge, improving academic achievement through the expansion of knowledge in science. With an increase in the acuity of patients in hospitals (Friedel and Treagust 2005 p.203) and with the rapid changes in technology, legislation and environments, the next generation of nurses need to have evidence of scholarly nursing practice (Riley et al 2007 p.426). Therefore, linking scientific knowledge gained at university in the BN program to clinical nursing practice enables the provision of safe nursing care.

The results from this study identified that there are advantages and disadvantages to Diploma ENs receiving RPL for first year science in the BN program. In support of the constructs *regret* and *perceived difficulty* findings from this study Wheelahan et al (2004) identified that RPL is not beneficial to everyone given the diversity of university undergraduates being from many different economical, cultural and social backgrounds, who may not have had the ability or facilitation to study at university without the opportunity to obtain a Diploma of Nursing through TAFE, or have not studied science for many years. In further support of the findings of this study that twenty of the forty respondents expressed Decisional Regret for applying and receiving RPL for first stage science, Wheelahan et al (2004) suggest that applicants for RPL may not fully understand what RPL means, and what the requirements are to successful articulation from one learning sector to another.

In addition Decisional Regret could be attributed to the academic ability of Diploma undergraduates. Academic study for some as shown in the results of this study can be difficult and RPL removes the benefits of building on base knowledge of first stage science. Those applicants for RPL experience a disadvantage in studying second stage science in the BN program. The sample number of respondents in this study has therefore, provided some insight into the need for further study in the area of RPL for first stage science to Diploma ENs entering the BN program.

Stakeholder partnerships

The development of partnerships between stakeholders provides and supports learning (Clare et al. 2003 p.67). It is in the interests of institutions in both the Vocational Education Training system (VET) and higher education sectors to open communication to provide course content to Diploma undergraduates that parallels first-stage university bioscience, articulating into the BN program at second stage without any disadvantage to learning. There is a shared responsibility of stakeholders in the commitment of providing value to education in the nursing profession (Clare et al 2003). As Clare et al (2003 p.67) suggest, the service providers within stakeholder partnerships have a responsibility to provide input into RPL policy and procedures as well as participate in curriculum development for Diploma undergraduates by sharing resources and expertise. Such partnerships are possible and the effectiveness of such an endeavour should be further researched.

RECOMMENDATIONS

While RPL provides access to further career advancement in nursing, additional research is required that investigate whether undergraduate ENs use prior learning to reflect upon what is being learned and whether an existing body of knowledge is being built upon (Noonan 2003 p.12). Critical analysis of the RPL process and tracking of progress through the university system are important elements in enabling the identification of the benefits of RPL for science to the academic achievement of ENs in the BN program. Many of the studies reviewed have not identified the impact of RPL nor its advantages or disadvantages to undergraduate ENs specific to the study of science in nursing.

CONCLUSION

This study has extended the knowledge about RPL awarded to ENs with a TAFE Diploma in Nursing, for those making the progression to RN. The data in this study has shown that receiving RPL for first-stage bioscience has meant that ENs enter the BN program at the second stage. Some who receive RPL feel they have a deficit in their knowledge of first stage science resulting in Decisional Regret for their choice to apply for RPL prior to commencing in the BN program. Likewise, this study identified that there is Perceived Difficulty for some Diploma undergraduates in studying second stage bioscience. Qualitative analysis in this study identified that some Diploma ENs in the BN program are better prepared than others to study second stage science and are able to build upon their body of knowledge learned through TAFE.

Receiving RPL for some was an advantage through the reduction in time spent studying for career advancement, and knowledge deficit was not an issue. However, there were disadvantages to RPL for some Diploma ENs who were not required to study first stage science, in that important first-stage course content such as physics and chemistry related to the physiology of the human body was bypassed. The provision of a summer school prior to commencing second stage science was identified as being beneficial for revision of previous scientific knowledge.

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Human factors in nursing: The time is now

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KEY WORDS

Human factors, patient safety, system improvement

ABSTRACT

Objective

To raise awareness for nurses about the differences between human factors, patient safety, and communication for safer process and system redesign.

Setting

Nursing service environments.

Primary argument

Nursing contributes at the sharp end of healthcare service provision. Communication is the most consistent pre-condition and consequence in any incident. Clarification of the role of Human Factors design in communication is critical to future research on process improvement in nursing. Human Factors is a key to the best practice management of system and process design as it builds-in the capabilities and limitations of humans in the workforce. Human Factors design is especially important for nursing as the 'caring' profession is vulnerable to high, unmonitored workloads directly and indirectly associated with the nurse's role and scope of practice. Patient Safety data and subsequent literature supports the aim of designing systems to fit better with humans, not humans working to suit systems. The question remains, how should nurses be doing this?

Conclusion

Health care service provision is complex, but understanding the underpinning human factors of the work environment and engaging in strategies to manage productivity fundamentally bound to human performance is paramount to higher-quality, safer care. Nurses need to recognise the precursory and antecedent human factors known to cause errors, and study their effect in redesigned systems using anterograde studies. Adoption of Human Factors research and proactively using the lessons learned from Patient Safety data into nursing systems and process design is best use of Evidence Based Practice.

INTRODUCTION

"Our greatest glory is not in never failing, but in rising up every time we fail." Ralph Waldo Emerson (1803-1882).

Nursing is driven by supply and demand and contributes at the sharp end of healthcare service provision. Patient Safety and the safety of staff working within the environment are paramount and are underpinned by the principles of industrial democracy: worker contribution through consultation and liaison. Communication is the most consistent pre-condition and consequence present in any incident. Clarification of the role of human factors design in communication is critical to future research on process improvement in nursing. Human Factors is a key in the best practice management of system and process design that builds-in the capabilities and limitations of humans in the workforce. Human Factors design is especially important for nursing as the 'caring' profession is vulnerable to high, unmonitored workloads directly and indirectly associated with the nurse's role and scope of practice. Introduction of patient safety and Productive Workplace (NHS 2011) initiatives are a significant step forward but to achieve the greatest efficiencies the next step is to build-in error-wisdom through managing for Human Factors. Patient Safety data and subsequent literature supports the aim to design systems to fit better with humans, not humans working to suit systems. The question remains, how should nurses be doing this?

BACKGROUND

"Evidence-based practice has been defined as using data and information, often from diverse sources, to guide practice." Hughes, R., in Carayon and Gürses (2008 p.37).

Human factors, once limited to ergonomics, is a multidisciplinary field of learning with contributions from psychology, engineering, industrial design, statistics, operations research and anthropometry: the focus is on the elements of engineering, cognition, perception, and empiricism. It studies the 'properties' of human capability and limitation, focusing on engineering elements such as application design, development, distribution and categorisation of systems and services, and the integration of this knowledge into programs. It includes social interactions with an emphasis on the characteristics of humans, and the way humans operate within their environment. The aim is to improve operational performance, quality and safety by changing the way we design and create our systems (Kohn et al 2000). It is best applied to communications where the target audience and direction of information is clearly defined such as in single interface exchanges. Leading authors in the field include Wickens et al (1997), Carayon (2007), and Green (2004).

"Human factors research applies knowledge about human strengths and limitations to the design of interactive systems of people, equipment, and their environment to ensure their effectiveness, safety, and ease of use." Henrickson et al (2008 p.84).

Human Factors is sometimes confused with Patient Safety, because it is rarely undertaken to explore aesthetic issues, process or workplace design, but rather the high profile or high priority issues such as adverse events. The Institute of Medicine defines Patient Safety as the prevention of harm to patients (Aspden et al 2004). Human Factors can take risk management and total quality management to another level, but to avoid getting lost in the maze of inference and jargon it is important to understand the language.

Patient Safety is the retrospective management of what went wrong, to prevent recurrence or mitigate damage. Error is an incorrect knowledge resulting from incorrect information which subsequently leads to a

wrong action¹, and can be due to inattention. An accident is a specific, identifiable, unexpected, unusual and unintended action, which occurs without apparent or deliberate cause. Accidents happen without the benefit of foresight or expectation; they are not reasonably foreseeable. Incidents unlike accidents are foreseeable. They appear minor in significance and occur by chance alongside an event or circumstance (and so are generally not causal on their own), or as a consequence of an event or circumstance. For example the incidental tasks related to the performance of a new duty. Violations, conversely, are “deliberate deviations from those practices (written rules, policies, instructions, or procedures) believed necessary to maintain safe or secure operations” (Carayon and Gürses 2008, p.8). It might be a relatively minor event that is incidental to or a consequence of others but which may cause an interruption, a crisis or an adverse event. Consequences as an endpoint are dependent on conditions. Patient Safety information therefore focuses on limitations identified on reflection.

Human Factors language on the other hand uses terms such as ‘fundamental surprise’ (Lanir 1986), which is the reaction a person has when something occurs to refute an assumption. It is borne from an error (incorrect assumption) and results in blame. “Humans,” says Green (2004 p.4), “have a strong bias to blaming people”, and he highlights nurses as assigning blame to minimize the impact of acknowledging an error; an action which defers responsibility from the people who created the system. This is called an ‘attribution’ error. Reason et al (2001 ii21, 23) described some organisations as having a cluster of pathologies which he termed Vulnerable System Syndrome (VSS). These organisations are at greater risk of adverse events. Central to this syndrome is blame, denial, and single-minded wrong-pursuit. The syndrome has three “interacting and self-perpetuating elements: blaming frontline individuals, denying the existence of systemic error provoking weaknesses, and the blinkered pursuit of productive and financial indicators.” Reason et al (2001) suggested going beyond immediate unsafe actions (active error) to the core underpinning assumptions (latent errors) about human fallibility, then begin to resolve the conditions that provoke it.

“There is always an easy solution to every human problem—neat, plausible, and wrong.” Mencken, H.L. (1917)

Inattention blindness, described by Green (2004), refers to our ability to adapt to our workplace and workloads by focusing our attention on the things that matter according to priority, but allowing other elements of the environment to go unnoticed. It is inattention blindness that is responsible for those slips and lapses (a result of preoccupation or distraction) that plague our everyday work life. It is about those items in one’s short-term memory that are prioritised frequently during the course of a day, allowing for some tasks to be dropped or forgotten (capture error). It is different to satisficing (‘good enough is enough’), which is the model of decision-making we use when we make choices selected from available options. Purchasing inventory is an example; the decision to buy is made on the best available option from the selection available.

Roles affect thinking behaviour also. For example a protocol might flow well for a Nurse Manager (NM), but not well at all for a frontline nurse. Time-critical roles (ward nurse) require mental rehearsal. That is, knowing what to do before it happens. A NM, on the other hand, has time to think through options, look for alternatives, and having a situational awareness different to the nurse due to the level of authority and access to information will influence the end decision. The NM optimises a response based on reflection and alternatives with more time to coordinate but the frontline worker responds based on protocol, conditions, and immediate options.

‘Situational Awareness’ is the ability to be aware of the local and meta-environment of the workplace while operating within it, allowing the operator to be more productive through enhanced workflow. For example, a nurse arranging for a patient to have a CT performed within an hour knows that the facility CT is not working

¹ Declarative (what to do), procedural (how to do it) or operational (when to do it).

and all emergency CT's must be arranged through the local private service. She is aware that she must contact this service, organise the transport and an escort, and that fortunately, the policy on external transport of critical patients has been ratified and so she must arrange through the new Patient Flow Coordinator to have this client moved as soon as possible, via the correct channels, using the current processes. Her situational awareness will assist her to tie-in all the relevant details required for success first time, in the least time.

PROPOSITIONS SUPPORTING THE ARGUMENT

Error and humans

"Experienced people develop expectations and mental models that permit pre-programming of behaviour and minimization of thought for routine, frequently performed tasks. ...One irony of medical error is that the most experienced and able people are likely to make the most egregious and unfathomable errors. They have the most experience, the greatest skill and the strongest expectations." Green, M. (2004, p.2).

Rasmussen's (1997) SRC Theory (Skill, Rule, Knowledge) applies to the experience of the human within the system, and refers to the way we process and manage information. The more experienced worker will rely on knowledge and commit more violations than the novice or the competent worker, who rely heavily on skill development or rules and tend to commit errors. The demarcation blurs when systems are dynamic and change rapidly and frequently, making expert workers vulnerable to all error types. Human Factors terms consistent with this theory include conspicuity, adaptation, automatic behaviour, cue generalising, top-down and bottom-up task relevance and hindsight bias. Two Patient Safety and Risk Management terms - consequences (dependent on prior events and especially relative to an individual), and conditions (a state or an assumption on which the validity or effect of something else rests) - often compete at the review table but have significantly different implications. We manipulate conditions and manage consequences.

Other terms of value are tautology and heuristics; repetition that detracts from the key message and the use of terms and rules to generalise or 'shorthand' information but which allows for misinterpretation and error. In a stable system these two behaviours have little impact, but this is reversed when the system is unstable.

Human Factors has been applied most frequently in nursing in the study and management of Patient Safety issues most notably medication safety, handover, hand washing, medical emergency early warning systems and in Root Cause Analysis (RCA). These are examples of the retrospective use of Human Factors knowledge by managing the consequence: revising the procedure or process to build-out the contributing factors. Hollnagel (2010) maintains the bias of RCA's is that they focus on predictable phenomena. Since healthcare systems are seldom stable, it is important to ensure human factors are being studied as contributing factors to prevent faults being built into the procedure or process. The resultant procedure or process should then be tested for reliability.

Communication

Human Factors is often referred to in Health, in terms synonymous with communication. This misnomer needs to be clarified. Communication (n) is a broad term that refers to the transfer of information from one entity to another, in terms of process or system. Processes are particular routine courses of prescribed action/s to achieve a particular result. Systems however, are a group of independent but interrelated processes comprising a unified whole. Systems are made up of methods and rules governing behaviour and provide an organised structure. They can be small or large, complex or simple, written and unwritten (for example, social systems). Human factors explores the elements present up to and at the point of breakdown of information involving a human and is empirical by default, allowing for the generalisation of knowledge learned for

specific interactions. For example, it is reasonable to generalise from empirical studies, that the capacity of our immediate memory limits the amount of information that we are able to receive, process, and remember. With this knowledge, we can design processes with instructions that meet the limitations of human memory, so decreasing the rate of errors and lapses.

“Accidents generally occur because of normal rather than aberrant behaviour. ..., human behaviour is the least malleable aspect of any system, such as a hospital, where people interact with a complex environment. It is futile to attempt error reduction by changing peoples’ cognition and behaviour...” Green (2004 p.37)

Communication in health is a patient safety concern (Carayon and Gürses 2008). It is cited with reference to the number of incidents directly related to a communication breakdown, and to how many incidents have communication breakdowns in the chain of evidence. Human factors specialists refer to communication in terms of prospective activity rather than a retrospective activity. Each discipline studying communication will have its unique perspective. Active issues of communicating (v), such as errors and execution failures tend to be temporal phenomena attributed colloquially with local tautology and ‘common sense’ rules. To change this behaviour and thinking, active communication techniques and strategies need to be studied using anterograde study designs, as a cause (either concomitant or isolated), for system-design improvements based on specific, measureable, repeatable foci.

The Mission

“Our systems and processes should make it difficult for staff to make mistakes and easy for them to do things correctly.” Ketrting and White in Reiling et al (2003 p.3).

The role of nurses in the development of Human Factors knowledge pertinent to the field of nursing is simply design modification. We need to *“... anticipate human cognition and to design systems that prevent the likely error”* (Green 2004 p.37). Active problems are faced by nurses at the frontline while the latent problems which often originate from the planning phases before production commences creep up on the nurse. Human Factors often present in strings or chains of events, circumstances, and phenomena where the active error or violation is the end product, but are equally present at the conception of latent errors. Individual psychological factors are the least manageable of all the links in the chain. Nursing research and quality improvement can focus on the development of work systems that mitigate or alleviate error as a starting point to expanding our skills in studying human factors for proactive management.

James Reason (1995), a leading author in error management believed people generally do not act in isolation, but that our behaviour is shaped by circumstance. He maintained that *“The likelihood of an unsafe act being committed is heavily influenced by the nature of the task and by the local workplace conditions. These in turn, are the product of “upstream” organisational factors.”* (Reason 1995 p88). Humans reason in ‘causal series’ and this linear thinking reduces our ability to think in terms of networks or our side-effects on other parts of the system (Reason et al 2001 ii23). Most human factors work in nursing is done on safety critical tasks. An example of work being done to understand

A Human Factors’ solution shopping-list contains:

- reduce complexity,
- increase information processing capacity,
- automate wisely,
- use constraints,
- mitigate side effects,
- task analysis,
- assess likelihood,
- attach a reminder,
- use the five C’s (conspicuity, contiguity, context, count, and content),
- use heuristic evaluations,
- cognitive walkthroughs,
- protocol analysis, and
- reduce the number of competing tasks.
- Assess underpinning assumptions.

and manage the human factors is the handover project promoted by the Australian Commission on Safety and Quality in Health Care (2006) with development and testing of the ISOBAR (Western Australia Country Health Service 2009) handover tool. Its current weakness is the requirement for nurses to practice not just speaking the formulae but also actively listening to it. Another is the use of sharps-safe injection devices for both acute and community sectors. The use of needles that easily retract into a sheath has removed the human factor of re-sheathing, from the risk of needle stick injury by eliminating the ability to remove the needle.

Changes in one process, may lead to incidental changes in other processes within the same system, subsequently solutions come with varying levels of effectiveness. Only eliminating the situation completely will stop it recurring. Effective suggestions are physical design changes, usability testing before purchase for new devices, engineering control or interlock (forcing functions), simplifying processes by removing unnecessary steps, standardising equipment and processes, and tangible involvement and action by leadership in support of patient safety. Intermediate effect solutions only control the incident and are vulnerable to circumstance. For example increasing staffing and decreasing workload, software enhancement or modification, eliminate or reduce distractions, checklists and clinical pathways, eliminate look-and-sound-alike's, read-back, and enhanced documentation and communication. Double checks, warnings and labels, new procedures, memorandums, policies, and training are the least effective solutions as they only acknowledge awareness of the problem (Patient Safety Centre 2009).

Common solutions in the Human Factors literature are aimed at the systems, management, and individual level and include automation, equipment simplification, conspicuity improvement, simulation training, but education and in-service (Reason et al 2001 ii23), use of memory aids such as checklists (Etchells et al 2006) and enforcing vigilance (Simmons and Graves 2008) merely 'relocate' the focus of attention, compounding fundamental surprise. Team training has been demonstrated to work well (Tzeng and Yin 2010) for specific, time-limited, isolated functions such as Basic Life Support and Advanced Life Support or for day-surgery practices. But there are problems with this also – 'inattentional creep' is one of them.

PROPOSITIONS REFUTING THE ARGUMENT

Safety systems

Another common misnomer in nursing is that nurses are excellent 'on-the-spot problem solvers', which Mick et al (2007) coined as "good catch", a skill beneficial to the reporting of near-misses. It does illustrate however, valuable skills in risk identification. When nurses problem-solve on the spot, what is actually happening may be a violation – going around or shortcutting (workaround) the protocol or procedural pathway in order to complete a task. Regardless of the reason, the fact remains, that the process did not allow for a contingency, and needed redesign.

Exception handling refers to those things that happen but which aren't the intended pathway for example, client or patient calls. The system then is designed to provide a first and second response, and if the calls are not redirected, they may be ignored. Humans introduce the most exceptions into any system, but we are also the default exception handlers in any system. Exceptions are estimated to cause two thirds of system crashes (Shelton (1999) in Ye 2006). In health, nurses are predicted to intercept up to 60% of errors before they reach the patient (Jefcott 2010). Unlike fault-tolerance which absorbs error, exception handling prevents error propagation or snowballing. Nurses are the primary source of organisational resilience² through exception handling. Exception handling if excessive or not built into the workload, can lead to efficiency – thoroughness tradeoffs (ETTO) (Hollnagel 2010). For example if protocols are too onerous, workers will adjust their behaviour

² The four tenets of resilience are monitoring, anticipating, responding, and learning

to suit the perceived most important needs of the moment. Common trade-offs are occurring when we make a decision not to check supplies are adequate for the next day because we haven't time today. The same trade-offs that lead to success, also lead to failure.

Change management

Models and theories have evolved to facilitate or guide the implementation of system redesign. Rodgers (1963) described Diffusion Theory, principles to facilitate planned behaviour change. These principles include the adoption process, rate of adoption, category of adoption, and opinion leadership, and must go through the five stages of diffusion: knowledge, persuasion, decision, implementation and confirmation (Harder 2009). A Logic Model (Taylor-Powel and Henert 2008) is used based on situational analysis and 'needs' assessment. Ultimately the end user - the nurse at the sharp end, must own the solutions.

GENERALISATIONS SUPPORTING THE ARGUMENT

De-stigmatising error

Is it that excellent nurses commit no errors, or that excellent nurses commit, recognise and resolve errors?

Adapted from Lee, C.A (date unknown)

The culture of nursing has always been prescriptive and proactive as evidenced by nursing diagnosis, which focused on preventative management and quality of life. A lot needs to be done around de-stigmatising error. When things go wrong, it's a symptom of deeper system trouble, not nurses causing trouble. We shouldn't be looking for what a nurse did wrong (an act of commission), but how a mistake could be made. We need to consider in our system and process design the general human error probability data that exist in various operating conditions (Shelton 1999). Chedru and Geschwind (1972) demonstrated humans generally have a built-in error rate of 0.5-1.0% for every task. Sometimes, it's about the things we don't do (an act of omission (Reason 2002). Errors of omission outnumber errors of commission by 2:1 (Weingart et al 2000 p.775). Slips, lapses, forgetting, and not knowing lead to acts of omission, as do the opportunity losses built into the system by designs that focus on the known and targeted elements. Staff employed in unfunded positions may be an error of commission³, while not employing staff may be error of omission. Just as there are errors of detection, so there are errors of diagnosis: our systems and processes should be implementing incentive programs for error detection and recovery. Forward planning approaches build-in resilience to the effects of error through error-wisdom (Reason 2002).

Building-in error wisdom

"The best outcomes are from resilience from error, not from being error free." deLaval (2000) in Jeffcott et al (2009 p.258)

Failure mitigation goes beyond design, into maintenance. Currently our systems have a level of fault-tolerance: absorbing the incidents without serious impact. But adverse event data shows that isn't enough. We need to build system maintenance into our protocols. For example, regular competency checks can be likened to having your car's tires checked. Ensuring meal breaks are built into the appointment booking program means failure due to hunger is mitigated via scheduled mealtimes and maintained by forcing functions built into the system (eg. the program will not allow booking patients into scheduled meal-break times). 'Hard conditions' are failure modes that are known to fail after a certain amount of operation with a high degree of

³ Guttman's (1983) in Lee (undated) four error types: omission, commission, sequential and timeliness.

certainty. Each individual maintenance item has a contribution to safety and can be given a numerical value. In procedure and systems design today, it is assumed if the process flow is consistent with ideal workflow, then that is all that's required. Human Factors engineering suggests instead that we should be taking the next step and evaluating the workflow for points of failure or fault. This may require adding 'redundant sensors' to the process / procedure / system. NASA technologies have demonstrated that the safety of a system (in terms of successful performance without incident) is related to the number of redundant modes available: the more redundant modes the safer the system. These modes operate silently in the background, and are only noticed when an incident occurs – they come into play, and prevent the incident from progressing, ensuring only the desired procedural flow occurs.

"The system approach concentrates on the conditions under which individuals work and tries to build defences to avert errors or mitigate their effects. High reliability organisations—which have less than their fair share of accidents—recognise that human variability is a force to harness in averting errors, but they work hard to focus that variability and are constantly preoccupied with the possibility of failure" Reason, J. (2000 p.768)

What's on the Horizon

Human Factors knowledge is growing in the nursing world. We need to focus on the role of Human Factors in nursing research. This focus needs to be on conditions and pre-conditions as independent variables. Interruptions have been studied most recently in nursing, demonstrating via 'cognitive pathway' mapping the shifting of a nurses' attention from patient to patient and of each interruption, while 'Stacking' is the number of tasks a nurse 'balances' concomitantly. In Wolf et al's (2006) study, nurses averaged ten or more activities stacked and experienced 3.4 interruptions/hr. Papers on attentional errors currently focus on medication management and the surgical patient journey.

Current Studies

Nursing workload studies (Carayon and Gürses 2005) are breaking-down the division of work into four levels: unit level in terms of nurse-patient ratios, job level as the amount of work routine to the job, including degree of difficulty and level of attention required (Holden et al 2011), patient level in terms of acuity, and situation level in terms of performance obstacles and facilitators (Carayon and Gürses 2005). With demand, supply, staffing, and length of stay issues a constant tension in healthcare service delivery, nurses must look at how human factors engineering can improve the workflow and efficiencies (Zolnieriek and Steckel 2010). Situation level issues include the physical work environment, models of care that match workflow and layout, supplies and availability, complexity of logistical systems, the extraneous needs of clients, patients and carers, communication styles (Thomas et al 2003), flows and conformity, the number of 'redirections' in any workplace structure and the similarities and familiarity between parallel programs within the same organisation. Studies of human factors on workload are mostly American, and refer to the acute sector (Cho et al 2003; Kovner et al 2002). What is missing specifically in the nursing literature on Human Factors management in nursing is the community nursing perspective.

RECOMMENDATIONS

Human Factors methodology allows nurses to study the 'properties' of human capability and limitation in the workplace. The language of Patient Safety is largely reflective and attaches socially constructed value-loaded labels, while the language of Human Factors is descriptive and focuses on the conditions that lead to a consequence. We manipulate conditions and manage consequences. Rassmussin's SRC Theory contributes to understanding human diversity in dynamic and rapidly changing environments, such as the

health workplace. Communication as it relates to the transfer of information in terms of processes or systems needs to be examined using Human Factors methodology to allow us to generalise knowledge learned for specific interactions. This can in turn assist nurses to manage-out some of the conditions (such as unwritten 'common sense' rules) that lead to incidents of active communication. As our behaviour is shaped by conditions, nurses must focus therefore on process and procedure design modification, using automation, equipment simplification, conspicuity improvement, team and simulation training, and the development and use of critical language in context. Nurses are well placed to report near misses and actively engage in process and system redesign, as the organisation's exception handlers. All this means revisiting our professional culture – not just the organisational culture - to include de-stigmatising error to allow nurses to build-in error wisdom (Reason 2004) into our practice, workflow and the organisations we work in.

CONCLUSION

Health care service provision is complex, but understanding the underpinning human factors evoked within the work environment and engaging in strategies to manage productivity fundamentally bound to human performance is paramount to higher-quality, safer care. Nurses need to recognise the precursory and antecedent human factors known to cause errors, already being studied by many other disciplines, and study their effect in redesigned systems using anterograde studies. The effective adoption of Human Factors research into nursing systems and process design is best use of Evidence Based Practice enhancing our Safety Culture and Total Quality.

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Discovering Constructivist Grounded Theory's fit and relevance to researching contemporary mental health nursing practice

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KEY WORDS

Constructivist Grounded Theory, contemporary mental health nursing practice, developing partnership, developing understanding, virtue ethics, therapeutic relationship.

ABSTRACT

Objective

This paper explores the Constructivist Grounded Theory research methodology informed by Charmaz (2006). Comparisons are drawn between the Constructivist Grounded Theory position and the ethical principles of Deontology, Utilitarian, Virtue ethics and fidelity that inform contemporary mental health nursing practice. Conclusions are made between the relative fit of the interpretivist nature of constructivism and contemporary mental health nursing practice. The aim of the paper is to describe the synthesis that exists between Constructivist Grounded Theory as a research methodology and its consistency with contemporary mental health nursing practice.

Primary argument

Constructivist Grounded Theory as a research methodology is an appropriate and consistent approach to use when researching in the area of contemporary mental health nursing practice.

Conclusion

This paper explores the origins of Constructivist Grounded Theory and the theoretical underpinnings of symbolic interactionism and constructivism. Comparisons are drawn between the ethical principles that inform contemporary mental health nursing practice and relative fit between the interpretivist nature of constructivism and the contemporary nature of mental health nursing practice. Concluding that Constructivist Grounded theory as a research methodology is an appropriate and consistent approach to use when researching mental health nursing practice.

INTRODUCTION

The aim of this paper is to describe the Constructivist Grounded Theory approach as described by Charmaz (2006) which was used as part of a PhD study to investigate the process of therapeutic engagement and professional boundary maintenance by mental health nurses. The interpretive nature of this theoretical perspective is consistent with contemporary mental health nursing practice from a post-modern perspective (Laugharne and Laugharne 2002; Corey 2009) where the mental health nurse seeks to understand and work with the client's perspective and has close alignment to the ethics and principles that underpin contemporary mental health nursing practice.

Constructivist Grounded Theory as a qualitative research methodology is explored in greater detail, with comparisons being drawn between the ethical principles of Deontology, Utilitarian and Virtue ethics that inform contemporary mental health nursing practice. The relative fit between the interpretivist nature of constructivism and the contemporary nature of mental health nursing practice are also explored.

The researcher – a practising mental health nurse and academic has had an interest in how clinicians manage the professional boundary for many years before researching in this area. Therefore the researcher does acknowledge their own subjectivity in that they cannot be distanced from the research. However using a constructivist approach to research fosters reflexivity on behalf of the researcher, culminating in the co-construction of a theory that is a combination of the researcher and the participant's stories and views. Charmaz (2006, p.16) outlines the importance of having a broader definition of the concepts of 'theory' when considering the development of a grounded theory and argues that an interpretive 'definition of theory emphasises *understanding* rather than an explanation. The important distinction being made here is that an interpretive theory relies upon the researcher's interpretation and analysis of the data and seeks an understanding of the social phenomena rather than an explanation or prediction of events.

CONSTRUCTIVISM

The Constructivist Grounded Theory research approach is informed by Kathy Charmaz's work from 1994 through to the release of her book *Constructing Grounded Theory – A practical guide through qualitative analysis* (2006). However Grounded Theory as a methodology has existed for some time (Glaser and Strauss 1967). Grounded Theory is a research approach which has its roots in both positivism and pragmatism. Its theoretical base is derived from symbolic interactionism and social constructivism (Denzin and Lincoln 1994; Bowers 1988; Blumer 1969; Mead 1932). Symbolic interactionism is recognised as an interpretivist methodology supported by pragmatism as the basis of the theoretical perspective (Blumer 1969) and (Mead 1932). Similarly Constructivist Grounded Theory takes an epistemological position of subjectivism, meaning that we understand that researchers cannot be completely objective, rather it is acknowledged that an interrelationship exists between the researcher and the participant (Mills et al 2006). Ontologically a relativist position is assumed, meaning that we can only understand concepts such as reality and truth within a broader framework, which is contextually positioned within a certain time, place, and culture (Charmaz 2006).

Methodologically Constructivist Grounded Theory is interpretivist in nature, meaning that the notion of a shared reality is interpreted or discovered by the researcher and that '...reality arises from the interactive process and its temporal, cultural, and structural contexts.' (Charmaz 2000, p.523). Hence this perspective denies the existence of an objective reality, rather assuming that reality, society and the self are socially constructed and that we make sense of our world by developing shared understandings through social interaction with others also known as social constructivism (Gardner et al 2010). This particular approach facilitates a researcher's understanding of how people negotiate and manipulate social structures; how a shared reality is created and how meaning is developed through the social interactions with others within defined contexts.

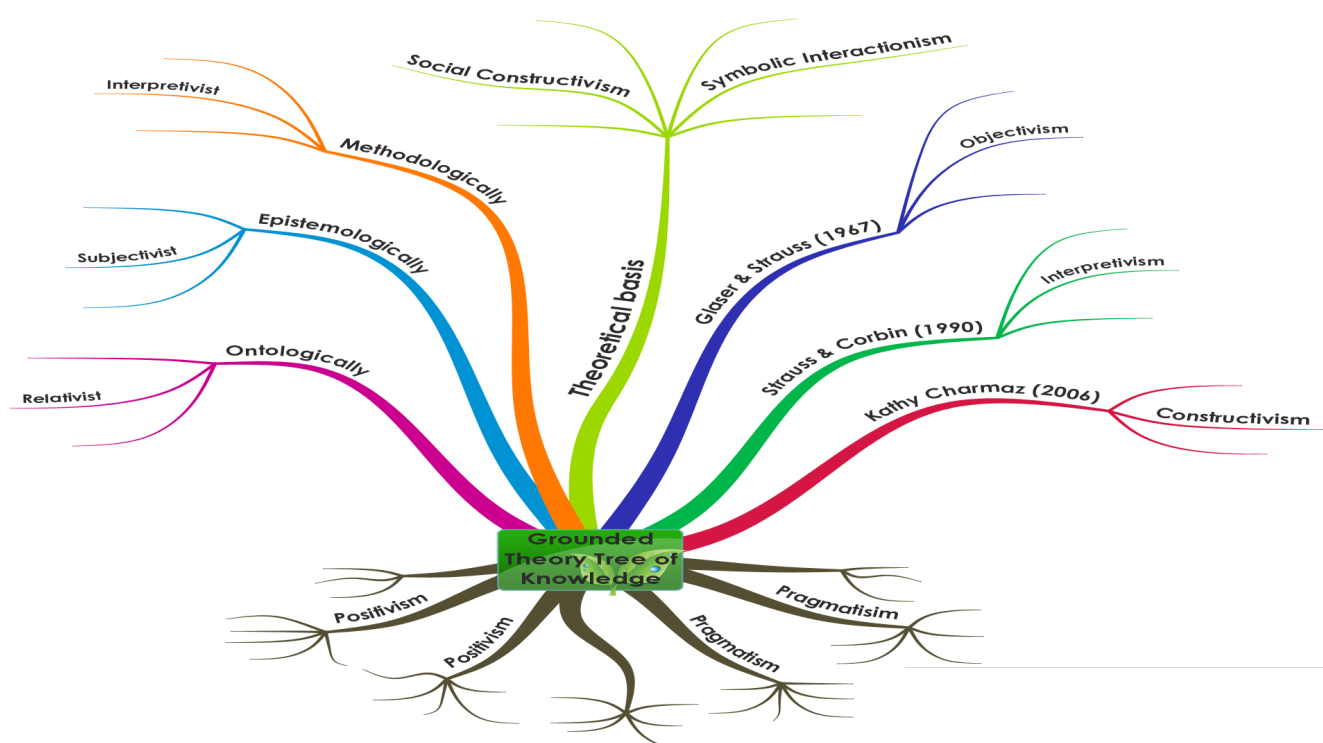
The development of Grounded Theories

Grounded theory as a research approach was developed by Glaser and Strauss and illuminated in a book titled *"The Discovery of Grounded Theory"* (Glaser and Strauss 1967). The publishing of the discovery of grounded theory and their approach challenged the dominant quantitative research paradigm. Classical Grounded Theory (McCutcheon 1997) discovered by Glaser and Strauss in 1967 developed systematic methodological strategies that could be used by social scientists to investigate social or psychological processes. Today classical Grounded Theory can be considered more of an objectivist approach to generating mid-range theories.

Over the next few decades Grounded Theory was adapted as subtle shifts in epistemological positions began to influence theorists and researchers alike (Bryant and Charmaz 2007), adjusting their positions to suit the sociological context and nature of the specific research being conducted at the time. In 1990 Strauss and Corbin developed the grounded theory approach further in their book *"Basics of Qualitative Research; techniques and procedures for developing grounded theory"*. This particular grounded theory approach has been referred to as contemporary grounded theory (Fedoruk 1999). Straus and Corbin (1990) argued that they had further developed grounded theory. However Charmaz (2006) would argue that their approach is more aligned to verification and that it is now '...known for its rigor and usefulness, but also for its positivistic assumptions' (Charmaz 2006, p. 9). Second generation Grounded Theory developed by Strauss and Corbin in 1990 built upon the early Grounded Theory approach and moved the method more towards an interpretive approach to developing theories.

Throughout the 1990's and early into the 21st century Charmaz (2006; 2005; 2004; 2000; 1995; 1995b; 1990) has continued the evolution of grounded theory developing a constructivist approach to Grounded Theory research, which stresses flexible strategies (Creswell 2008), and acknowledges the role of the researcher as an active 'passionate participant' (Lincoln and Guba 2000, p. 166), who pays attention to relationships, the voices of participants and ensures the co-construction of a theory of the social phenomena. Figure 1 below is a diagrammatic representation (Grounded theory tree of knowledge) of the authors' view of the theoretical position that supports the Constructivist Grounded Theory approach and how Constructivist Grounded Theory has further developed from the original grounded theory approach.

Figure 1: Grounded Theory Tree of Knowledge



Constructivist Grounded Theory

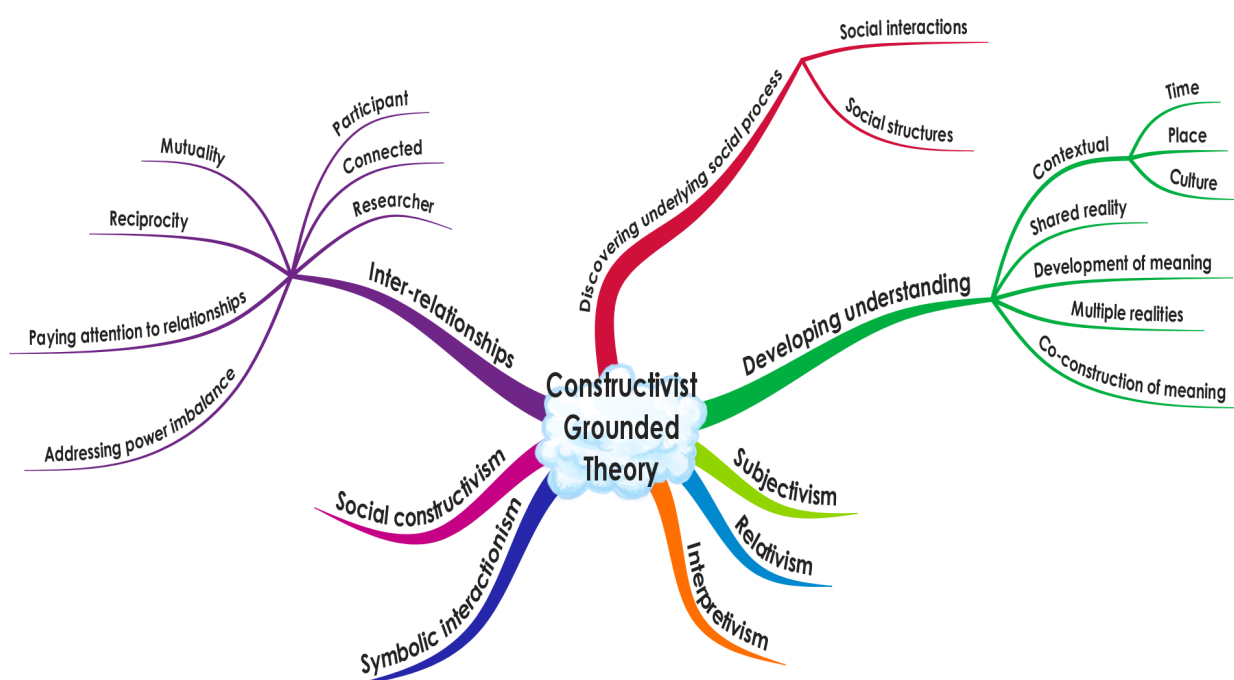
In 1994 Kathy Charmaz named her research approach as Constructivist Grounded Theory, situated between positivism and post modernism (Charmaz 1995). Asserting that as researchers we are a part of the world that we study and the data that we collect. We therefore construct our theories through our past and present interactions with people, perspectives and research practices. Some researchers (Clarke 2003 and Mills et al 2007) have argued that Charmaz was more aligned to post modernism at this time and ‘...was living out a post-modern position’ (Clarke 2003, p. 62) theoretically speaking, but ‘...was reluctant to name it as such’ (Mills et al 2007, p.74). However Charmaz is not a postmodernist, but does share some assumptions with them (Charmaz 2009 personal communication).

Charmaz has accepted the invitation from Glaser and Strauss (1967), to use the original grounded theory approach in a flexible way. Furthermore stating that she adopts a more flexible approach to data analysis by ‘...creating abstract interpretive understandings of the data’ (Charmaz 2006, p. 9) and that a constructivist approach to developing a grounded theory has ‘...[loosened] the method from its positivist roots, [and] moves it into interpretive inquiry, [however] preserves and enhances its pragmatist heritage’ Charmaz (2008, p. 133).

Constructivist grounded theorists recognise that mutuality exists within the research relationship and that the relationship is privileged where a connection exists between the researcher and the participant in this context and must be respected as such by the researcher. Charmaz (2008, p. 133) puts it this way ‘*Entering the phenomenon shrinks the distance between the viewer and the viewed. Subsequently, we might better understand our research participants multiple realities and standpoints*’.

Constructivist Grounded Theory aims to develop a detailed understanding of the underlying social or psychological processes within a certain context (Charmaz 2006), by exploring in more detail social interactions and social structures. From a research perspective the notion of a shared reality is discovered by the researcher through the interview process with research participants (Charmaz 2000). Using a Constructivist Grounded Theory approach allows the researcher to focus attention on the underlying social process that might be occurring in any given context (Charmaz 2006), which may not be immediately apparent but emerges over time as the data is analysed and theorising begins.

Figure 2: Constructivist Grounded Theory



Developing understanding and the development of a mid-range theory is an interpretation made by the researcher, informed by the data and '...is contextually situated in time, place, culture and situation' (Charmaz 2006, p.131). Furthermore, Charmaz emphasises the voices of the participants and the views of the researcher as a co-constructor of the developed theory through the exploration of multiple realities and the development of understanding and meaning. Therefore, interpretations are a shared reality and ultimately the co-construction of a theory has a combination of the participants and the researchers' stories and views. The research process is therefore a dynamic interaction between the actors and the researcher with the views of the researcher incorporated with the understandings that have been developed, and shaped as more and more data is collected and analysed. Figure 2 represents this author's interpretation of the Constructivist Grounded Theory position as conceptualised for this research. Focusing on discovering the underlying basic social process, developing understanding of mutual realities, and emphasis on inter-relationships.

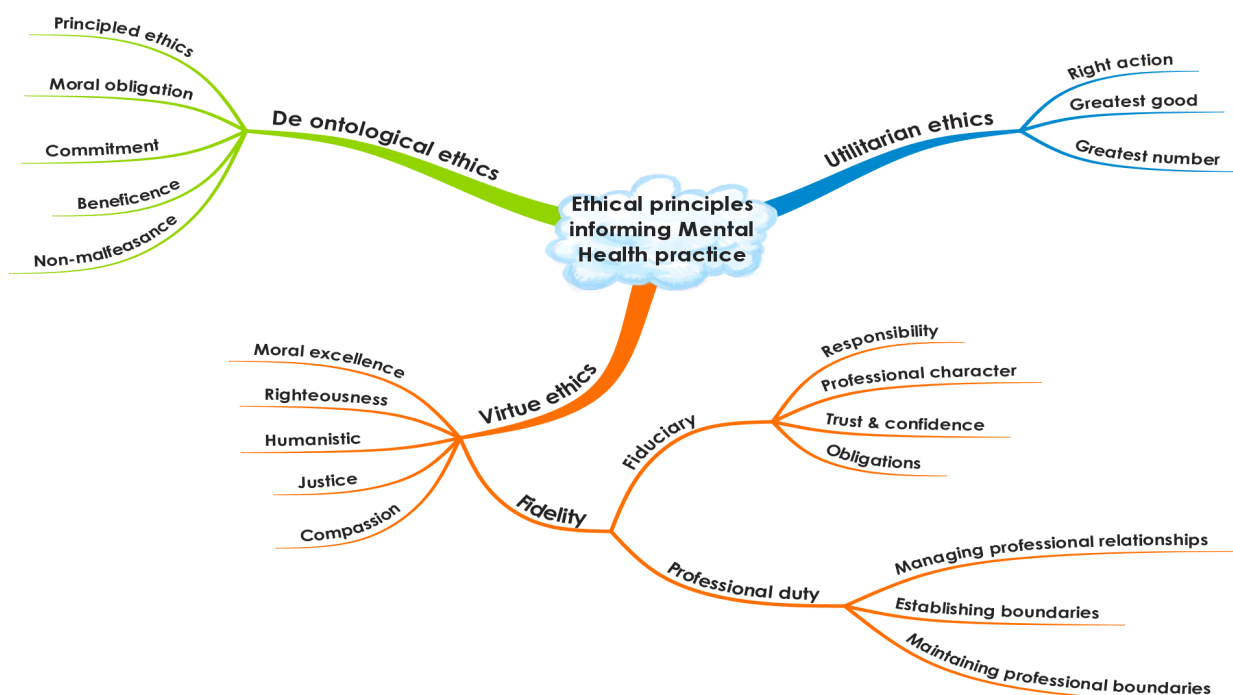
Ethical Principles Informing Mental Health Nursing Practice

Exploring the ethics and principles that inform the practice of mental health nurses led the researcher to determine that a Constructivist Grounded Theory approach was appropriate for this particular research. Deontological, Utilitarian and Virtue ethical theories have been identified as applying to all health care professionals (Morton 2004). The ethical framework that informs professional mental health nursing practice is also derived from these three ethical positions. Deontological ethics is derived from the Greek word *deon* meaning duty. It describes a professional's moral obligation and commitment or principled ethics. Deontological ethics is the basis on which the concepts of beneficence and non-maleficence or 'doing good things' and 'doing no harm' are based. Utilitarian ethics is premised on the concept that the right action is the greatest good for the greatest number, or a set of rigid rules that should be adhered to in order to ensure that there is maximum benefit for as many as possible, for example all clients will be treated equally.

Virtue ethics on the other hand, are concerned with the practice of moral excellence or righteousness and 'offers a more humanistic and realistic perspective' (Morton 2004, p.257). Virtue ethics are underpinned by three principles: justice, compassion, and fidelity. For the purpose of this study fidelity or fiduciary duty was considered as the most important principle as it relates more closely to the concepts of professional duty within the therapeutic relationship and the establishment and maintenance of professional boundaries.

The fiduciary duty within the professional relationship could be considered under either virtue ethics, for example based on the *professional's character*, or also under deontological ethics, specifically beneficence (to do good or the right thing). A fiduciary relationship exists '...when one party, the fiduciary, accepts the trust and confidence of another party' (Jorgenson et al 1997, p.51). Therefore, a fiduciary duty or responsibility from a professional's point of view is understood to mean that the professional, is acting as an agent for the client and assumes a special relationship of trust, confidence, and responsibility in obligations to their client.

All health professionals, but more importantly mental health professionals due to the vulnerable nature of the client group, are considered as being obliged to discharge faithfully a responsibility of trust toward their clients. A connection also exists between the fiduciary relationship and the boundaries of that relationship in that '...the range of permissible behaviour on the part of the fiduciary is often narrowed, and the boundaries within the relationship [are] viewed as less permeable' (Jorgenson et al 1997, p.51). Hence it is clear that each mental health professional is responsible for not only maintaining the therapeutic relationship associated with trust, confidence and fiduciary responsibility but to also be responsible for ensuring that the appropriate boundaries are maintained. Using a Constructivist Grounded Theory approach to research the process of how mental health nurses establish therapeutic relationships and how they maintain the professional boundary seemed consistent with the fiduciary ethical position. Figure 3 represents this author's interpretation of various ethical principles related to contemporary mental health nursing practice as discussed above.

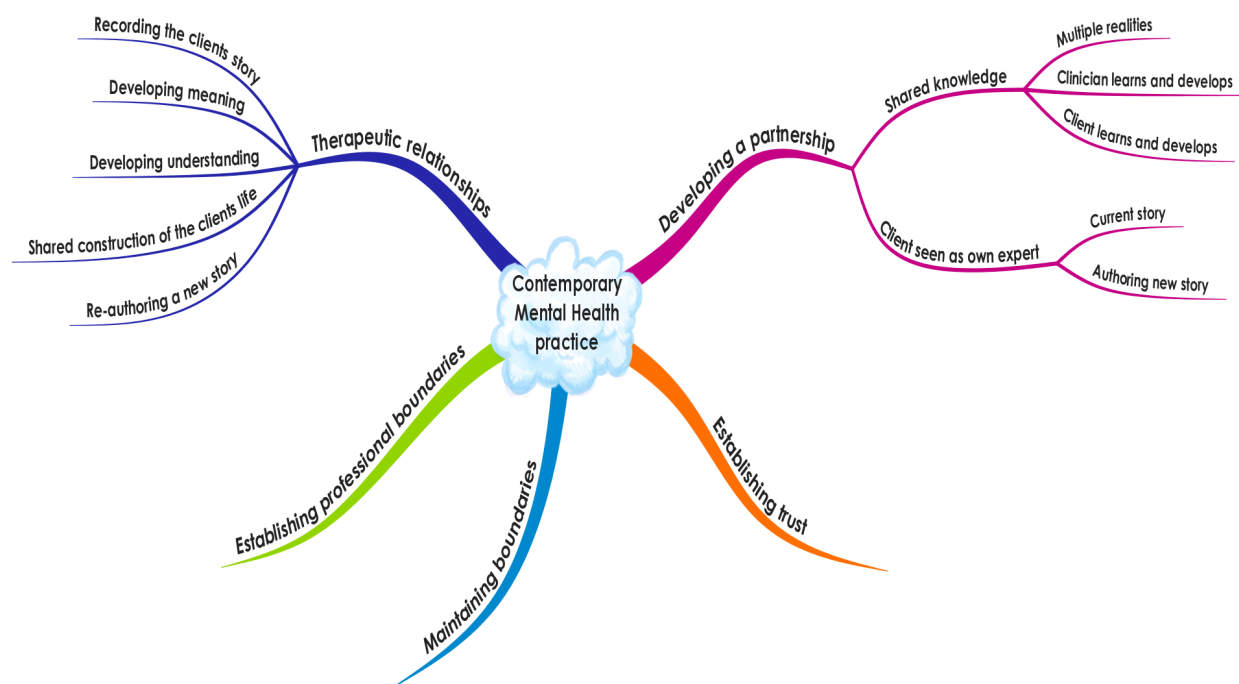
Figure 3: Ethical principles informing contemporary mental health practice

Contemporary Mental Health Nursing Practice

Contemporary mental health nursing practice is premised on establishing trust and the establishment and maintenance of the professional boundary. Once trust has been established and boundaries determined a safe space is created for both the clinician and the client to exist. When the clinician and the client operate within the boundaries of the professional relationship a level of predictability occurs in terms of what behaviours are acceptable and expected (Peterson 1992).

The therapeutic relationship facilitates the development of meaning and understanding as the client's story is told and recorded. With the telling of the client's story, the naming of events (actions) within a certain context, meaning and understanding is further developed until a shared position of mutual understanding is developed between the client and the mental health clinician. Whilst it is recognised that the clinician brings a multitude of knowledge and experience to the relationship they cannot know the client's personal perspective until their story is shared. The interaction between the client and the clinician is central to the process of developing this shared construction of the client's life and multiple realities. Through the process of telling and retelling their story a new shared construction is developed. In this way contemporary mental health nursing practice and Constructivist Grounded Theory share some assumptions with the postmodern position. For example the client is seen as the expert of their condition, where their thoughts and behaviours are interpreted within a social and cultural context, and where the client can re-author or develop new understandings about their own life through the retelling of their story.

Developing a partnership is not a new concept but does build on the notion of the therapeutic relationship, where knowledge is shared and multiple realities are acknowledged. In this space both the clinician and the client learn and develop through the process of the therapeutic relationship. Through this partnership the client is seen as the expert of their own condition and it is here where the client and the clinician work together to author a new story. Figure 4 below represents the philosophical assumptions that underpin contemporary mental health nursing practice within the postmodern paradigm.

Figure 4: Contemporary Mental Health Nursing Practice

Constructivism and Contemporary Mental Health Nursing Practice

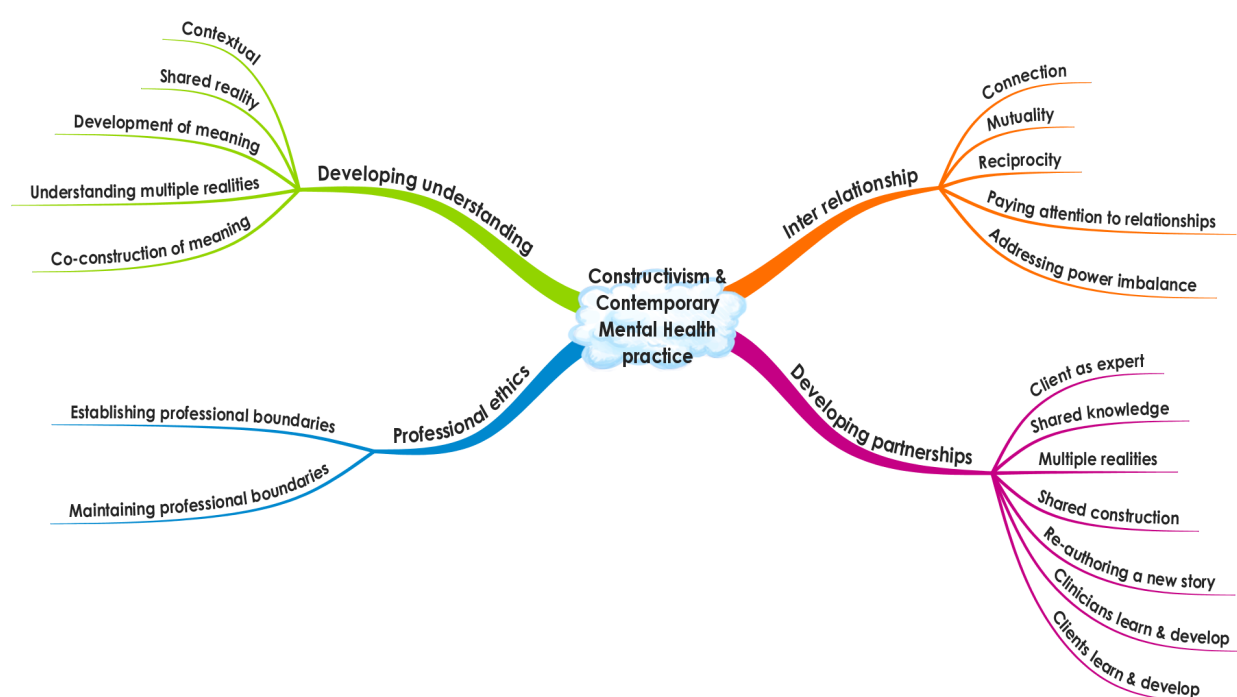
Merging the comparable elements of constructivism and contemporary mental health nursing practice will now bring this discussion to a close. Firstly inter-relationships, both constructivists and mental health clinicians are interested in forming a connection with interview participants or clients. They understand that their relationships have an element of mutuality and reciprocity. They know that they must pay attention to the relationship and must attempt to address the existing power imbalance.

In developing partnerships mental health nursing recognise that the therapeutic encounter is based on a partnership. Where the client is viewed as the expert of their own condition as interview participants are seen as the ones who share their knowledge as multiple realities begin to emerge and a shared construction develops. Whether, that is about a new understanding of a social phenomena or the re-authoring of a client's new story. Through the process of the partnership the mental health clinician recognises the potential through every therapeutic encounter for them to learn more about their craft and through reflection to learn more about himself or herself as a therapeutic agent. Similarly, Charmaz (2006) shares the view that the researcher cannot be completely distanced from research participants, and acknowledges that the researcher is connected with the actors and develops more understanding of the phenomenon under study with each person being interviewed. In a similar way research participants and clients learn more about themselves through the therapeutic encounter or by being a part of the research process and reflecting on the content of the interview conversation.

Whilst it is acknowledged that a constructivist researcher and a mental health clinician are connected to their research participants or clients there is always the need for appropriate professional ethics to be demonstrated in terms of establishing boundaries and by maintaining professional boundaries. Finally in terms of developing understanding constructivists and mental health clinicians recognise that the development of meaning and shared realities are contextually based and that multiple realities are possible as we strive to co-construct a sense of meaning.

The Constructivist Grounded Theory approach was used to explore the phenomenon of how mental health professionals successfully establish a therapeutic relationship and safely negotiate the professional boundary. As the interpretivist nature of constructivism was consistent with contemporary mental health nursing practice where the mental health professional seeks to understand and work with client's perspective. From this point of view the client is seen as the expert of their condition. The interaction between the mental health professional and the client facilitates mutual understanding which is commensurate with the constructivist approach between the researcher and the interview participant as they explore a mutual understanding of the phenomenon of interest. Figure 5 below brings together the philosophical positions of constructivism and contemporary mental health nursing practice.

Figure 5: Constructivism and contemporary mental health nursing practice



CONCLUSION

This paper brings together the philosophical positions of constructivism and contemporary mental health practice. Comparisons between the ethical principles that inform contemporary mental health practice and the relative fit between the interpretivist nature of constructivism and contemporary mental health nursing practice have also been explored.

The use of Constructivist Grounded Theory informed by Charmaz (2006) as a research approach has facilitated an investigation into how mental health clinicians engage clients in a therapeutic relationship and how they maintain the professional boundary. Constructivist Grounded Theory methodology is consistent with contemporary of mental health practice and is a suitable framework for ongoing research in this area.

RECOMMENDATIONS

Researchers who are interested in developing shared understandings of sociological phenomena, especially in the area of mental health research should consider the constructivist position as a research methodology. Particularly Charmaz (2006) Constructivist Grounded Theory research approach.

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