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IN THIS ISSUE

RESEARCH PAPERS

SCHOLARLY PAPERS

34:3

THE AUSTRALIAN JOURNAL OF ADVANCED NURSING

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CONTENTS

RESEARCH PAPERS

SCHOLARLY PAPERS

AUSTRALIAN JOURNAL OF ADVANCED NURSING REVIEW PANEL: AUSTRALIA

Tod Adams, Masters Nursing (Nurse Practitioner), Grad. Cert Aged Care, Grad. Cert. Coronary Care, Grad. Cert Health Management, Bachelor health Science (Nursing), NSW Health, SESIAHS, Shoalhaven Hospital, New South Wales

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Assessing the effectiveness of clinical education to reduce the frequency and recurrence of workplace violence

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KEY WORDS

Workplace violence, high risk for violence, pro-active management, clinical education

ABSTRACT

Objectives

This study assessed the effectiveness of clinical education to identify patients with a high risk for violence and to reduce the frequency of violent incidents.

Design

A before and after design with an education intervention.

Setting

Data were gathered from the direct care staff and from records of violent/aggressive incidents which occurred on two adult medical wards at a teaching hospital in Western Australia.

Subjects

Nurses, Assistants in Nursing and Patient Care Assistants working on the study wards participated in the education intervention (n=65) and completed a questionnaire before and after the education. Details of 48 violent/aggressive incidents perpetrated by 21 patients were examined.

Intervention

An education program addressed four key areas (assessment, planning, implementation [crisis], post incident). Case studies and in-patient scenarios provided context, immediacy and relevance, and 77% of the staff completed the program.

Main outcome measure

Knowledge, confidence and capability of direct care staff to prevent/manage violent/aggressive incidents were measured. Incident data measured the frequency and recurrence of violence/aggression, and if perpetrators met the high risk criteria.

Results

Post education, knowledge increased significantly (p=0.001, CI 0.256-0.542), the use of verbal de-escalation increased significantly (p=0.011, 1df) and the frequency and recurrence of incidents decreased. All perpetrators met criteria indicating a high risk for violence.

Conclusions

Education and coaching provided by clinical experts resulted in increased knowledge, greater use of verbal de-escalation and less incidents. However, more time/coaching is required to improve the perceived capability of clinical staff to manage these incidents.

INTRODUCTION

Workplace violence (WPV) is a worldwide problem (Gates et al 2011; Brennan 2010; Chapman et al 2009a; Peek-Asa et al 2009; Shields and Wilkins 2009, Luck et al 2007; Hegney et al 2006). It includes incidents that cause physical and psychological harm to employees from abuse, threats and assaults in circumstances related to their work. Worldwide, violence in healthcare is estimated to comprise a quarter of all WPV and is a major occupational hazard within health (Commission for Occupational Safety and Health 2010; World Health Organization 2002).

Violence and aggression cannot be completely removed from hospitals as there is potential for violence whenever people congregate (Mental Health Adult Program April 2010). As numerous strategies to reduce WPV had been implemented at an 850 bed adult teaching hospital in Western Australia, there was concern when a 12% increase in incidents occurred in 2011 and when 27 patients were involved in recurring WPV incidents in the first quarter of 2012. At this time generic training comprised an initial training day, followed by a 2.5 hour annual practical refresher with an e-learning module. Training aimed to maintain safety using primary, secondary and tertiary interventions; however, it was not ward/unit specific, was conducted away from clinical areas and consequently omitted feedback during real incidents.

It was thought that ward specific training may address these limitations by facilitating the transfer of knowledge to practice, developing skills identifying problems and implementing prevention strategies. Therefore, a study was designed to assess the effectiveness of a clinically based education program, with three objectives, to:

- assess the effectiveness of clinical education to enable staff to identify patients with high risk for violence;
- assess the influence of clinical education on the frequency of WPV; and
- determine if incidents by repeat perpetrators of violence were influenced by the education strategy.

METHODS

A before and after study was designed with an educational intervention. To assess knowledge, confidence and capability of staff related to managing violence and aggression, assessments of these attributes were taken before and after the education. In addition, six months retrospective incident data and six months prospective data were collected before and after the education intervention.

Sample

A convenience sample of direct care staff on two medical wards participated. They included Registered Nurses (RN) – 41 pre, 45 post; Enrolled Nurses (EN) 15 pre, 17 post; Assistants in Nursing (AIN) – 3 pre, 5 post and Patient Care Assistants (PCA) – 6 pre and post; to give a population of 65 pre and 73 post. All WPV incidents that occurred six months either side of the education intervention were included.

The Intervention

Four key areas (assessment, planning, implementation [crisis], post incident) formed the basis of the education. Hypothetical case studies were augmented by in-patient scenarios to provide context, immediacy and relevance. Education was presented daily during the staff overlap time (2-3pm) and for permanent night duty staff, aiming for 66% to complete the four key education areas and was conducted from 6 February to 13 May 2013.

Data Collection

Data were collected from two sources: 1) staff completed a self-administered questionnaire and 2) data related to violent/aggressive incidents were obtained from hospital records.

The staff questionnaire assessed knowledge with open questions, and confidence and perceived capability to prevent/manage workplace violence/aggression on a 1-5 Likert Scale. It was administered before and after the education to measure the effect of the education on these attributes. Envelopes containing the questionnaires and a return envelope were sent to staff members, and returned by internal mail to the researcher.

Retrospective and prospective data related to incidents of violence/aggression were obtained from hospital records. These included records of Code Black incidents, Staff Accident and Incident (SAIR) forms, Hazard forms and Clinical Incident Forms (CIF), with additional information obtained from the patient's notes. This information was collated on a data collection tool, which included long established indicators for a high risk of violence/aggression (Kling et al 2011; Drummond et al 1989). The purpose was to measure the frequency and characteristics of incidents before and after education to assess the effectiveness of the program. All incidents perpetrated by patients towards staff in the time frame on the study wards were included.

Analysis

Data from the staff questionnaires and the violent/aggressive incidents were managed in SPSS Statistics 20. Categorical data were presented as frequencies, proportions and percentages, and continuous data as means and median. Comparison of means, correlations, and odds ratios were computed, with the alpha set at $p=0.05$. Scores from specific summed Likert Scale questions (knowledge, confidence, capability) were calculated and logarithmic transformation performed prior to linear regression of these three scores.

Validity and Reliability

The education intervention was considered to be 'best-practice' as it was based on current research, therefore demonstrating content validity. Although not a validated tool, the staff questionnaire had content and face validity as it was designed specifically to evaluate the effectiveness of the education. This was pilot tested with a convenience sample of 23 nurses and three PCA's from non-study areas. Fifty eight percent were returned on the first and 52% on the second occasion, with reminder emails sent. Test re-test reliability was assessed using the combined scores for knowledge to give a Pearson's $r = 0.986$ and a combined score for the Likert Scale questions to give a Pearson's $r = 0.96$. Internal consistency was assessed with Cronbach's Alpha, with homogeneity demonstrated for the three questions relating to confidence (0.93) and two questions relating to capability (0.78).

Ethical Consideration

Ethics approval was obtained from the Human Research Ethics Committee. Information sheets explained the studies purpose. Returned staff questionnaires implied consent was given and as no names were obtained, anonymity was ensured. Although identification of staff and patients were necessary to follow-up incidents, these details were excluded from reports. All data were stored securely with access limited to those involved.

RESULTS

Staff Questionnaire: Response, Demographics and Education

The percentage of returned staff questionnaires before and after the education intervention was similar: 65 pre-questionnaires were mailed and 28 returned (43%) and 73 post-questionnaires were mailed with 31 returned (42.5%).

No significant difference was observed in the gender, age group, professional experience, employment group, work status or rostered work between the pre and post staff (table 1). The majority were female, RN, with more than five years professional experience, aged more than 30 years and working full time but not on permanent night duty. Forty-seven staff completed all four key areas of the education intervention (77%).

Table 1: Demographic details: pre and post questionnaire respondents

	Pre (*n*=28)	Post (*n*=30)	Statistic
Gender			
Male	3	3	*p=1.0* (1df)*
Female	25	26	
Age Range (years)			
<30	8	6	
30-39	7	9	*p=0.67* (4df)*
40-49	4	5	
50-59	8	6	
>60	0	2	
Professional Experience (years)			
<5	12	14	
5-10	5	7	*p=0.54* (4df)*
11-20	5	3	
21-30	5	3	
>30	0	2	
Employment Group			
Nurse RN	23	19	
Nurse EN	5	7	
AIN		1	
PCA		1	
Work Status			
Full Time	21	26	*p=0.78** (1df)*
Part Time	7	6	
Permanent Night Duty			
Yes	3	1	*p=0.35* (1df)*
No	25	28	

*Fisher's Exact Test **χ^2

Staff Questionnaire: the Effect of Clinical Education on Confidence, Capability and Knowledge

Data from three Likert scale questions relating to confidence were summed to give a combined confidence score. Likewise, responses to two Likert scale questions relating to capability to deal with aggression were summed to give a combined capability score and an overall score from four questions assessing knowledge were summed to give a knowledge score, with a potential score of 10. No data were missing and data were not normally distributed (table 2).

Table 2: Descriptive summary of confidence, capability and knowledge scores

	Knowledge Score (/10)		Confidence Score (/15)		Capability Score (/10)	
	Pre	Post	Pre	Post	Pre	Post
N	28	31	28	31	28	31
Median (IQR)	6.0 (4-7)	8.0 (7-9)	10.0 (9-12)	11.0 (10-12)	6.5 (5-8)	7.0 (6-8)

Logarithmic transformation was performed prior to linear regression of the three scores (table 3), which showed a statistically significant difference between the pre/post education scores for knowledge (p=0.001).

Table 3: Summary of linear regression

Variable	Log*prepost questionnaire	F Statistic	P (CI)	r2
Knowledge Score	1.725 – 0.399	$_{1,49}$ 31.504	0.001 (0.256-0.542)	0.391
Confidence Score	2.37 – 0.023	$_{1,55}$ 0.239	0.627 (-0.073-0.119)	0.004
Capability Score	1.848 – 0.045	$_{1,55}$ 0.372	0.545 (-0.104-0.195)	0.007

Violent/Aggressive Incidents: Data Sources and Staff Involved

Most of the incident data was obtained from security reports and patient notes, with the least obtained from CIF and SAIR forms (table 4). The perpetrators' URMN enabled their notes to be sourced to obtain further information.

Table 4: Incident data sources

Data Sources	Pre / Post Frequency		Combined Frequency	Percentage %
Security Data & Patient Notes	18	13	31	64.6
Patient Notes	7	3	10	20.8
SAIR	2	0	2	4.2
Security Data	1	1	2	4.2
SAIR, CIF & Patient Notes	1	0	1	2.1
SAIR, Security Data & Patient Notes	1	0	1	2.1
CIF, Security Data	1	0	1	2.1
Totals	31	17	48	100.0

Although details are incomplete (table 5), the majority of staff involved in the WPV incidents were female (78.8%), RN (68%) worked full time (58.6%), with the majority of incidents involving a single nurse (58.7%). They had been employed for a median of 54 months (IQR 11-103 months) with almost half (48%) employed for less than four years.

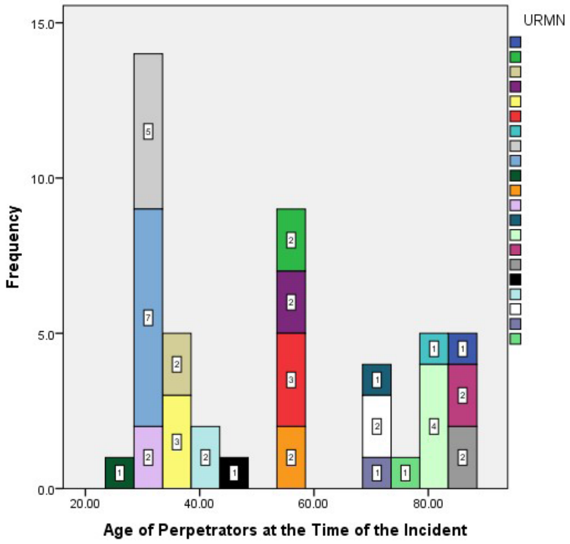
Table 5: Characteristics of staff involved in violent/aggressive incidents

Variables		Number	Valid %
Gender	Male	6	18.2
	Female	26	78.8
	Unknown	1	3.0
	Missing	15	
Employee Status	Full Time	17	58.6
	Part Time	9	31
	Casual / Agency	3	10.3
	Missing	48	
Employment Position	EN	3	8.6
	RN	24	68.6
	AIN	1	2.9
	PCA	1	2.9
	Cleaner	1	2.9
	Security Officer	2	5.7
	Medical Staff	3	8.6
	Missing	13	

Violent and Aggressive Incidents: Perpetrators and Incidents

There were 48 violent/aggressive incidents, with the majority (n=35, 73%) perpetrated by 14 males, who initiated between one and seven incidents each. Twelve incidents (25%) were perpetrated by seven females, with between one to three incidents each, plus an incident where the gender and age was unknown. The known ages of the perpetrators was 26 to 88 years, with a median of 55 (IQR 33-73 years). These data were not normally distributed, with figure 1 demonstrating the spread of the age and the frequency of the repeat perpetrators (URNM omitted to maintain anonymity).

Figure 1: Age of perpetrators at the time of the incident



All known perpetrators (47 of 48), met the criteria indicating a high risk for violence/aggression. The most frequent high risks categories were a history of violence, a history of substance abuse and confusion related to delirium/dementia (table 6). More than one high risk category could apply.

Table 6: High risk characteristics observed in the perpetrators of violence

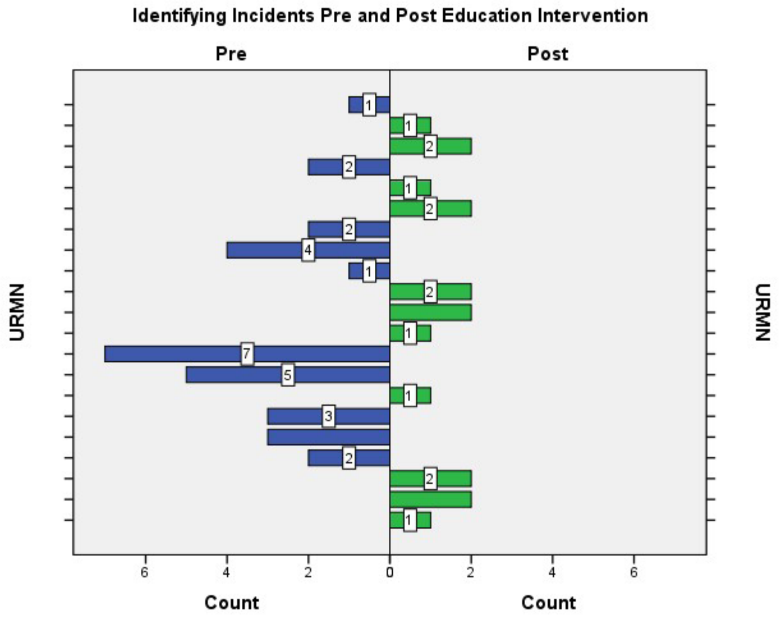
	High Risk		
	Yes	No	Total
History of Violence	32	15	47
History of Substance Abuse	22	25	47
Confusion related to Delirium/Dementia	21	26	47
Non Traumatic Cerebral Problem	16	31	47
Chronic Pain	15	32	47
Current Substance Abuse	14	33	47
History of Substance Intoxication	9	38	47
Head Injury	5	42	47
Current Substance Intoxication	3	44	47
Serious Mental Illness & Acute Psychosis	3	44	47
Serious Mental Illness & Antisocial Personality Trait	3	44	47
Postictal	2	45	47
Hypoglycaemia	1	46	47
Serious Mental Illness & Personality Disorder	1	46	47

In addition to a history of violence, 83% (n=40) of the perpetrators demonstrated adverse behaviours during their current admission. Most incidents occurred in the ward areas (n=44, 92%); one in a bathroom and three outside the ward. There was a six day median between admission and the incident (IQR 3-30 days), with a non-normal data spread. Physical and actual incidents were the most common (n=35 each) followed by verbal incidents (n=23), with potential and near misses (n=6 each) less common and significantly more potential incidents post education (p=0.02, 1df).

Violent and Aggressive Incidents: the Effect of Clinical Education

Violent/aggressive incidents decreased by 45% following education, with the proportion of recurring incident also decreasing. Pre-education seven of 30 incidents were the first incident (this admission); post-education eight of 17 incidents were the first incident. Although not significant (χ2 p=0.08, 1df), less incidents were generated by the same patient. Figure 2 displays the incidents pre/post education. Before the education 10 patients were responsible for 30 incidents, with the most frequent reoffender perpetrating seven incidents. Following education there were 17 incidents from 11 patients, with a maximum of two incidents each.

Figure 2: Frequency of incidents per patient pre and post education



Verbal de-escalation in the immediate crisis increased significantly post education (p=0.001, 1df), although there was no increase in other crisis management activities: medications administered (p=0.1, 1df), withdrawing (p=0.61, 1df), activating code black (p=0.32, 1df), physical (p=0.2, 1df) or mechanical restraint (p=0.79, 1df). Furthermore, no significant changes were observed in the ongoing management post education: patient review (0.37, 1df), management plan (p=0.14, 1df) or medication review (p=0.2, 1df).

DISCUSSION

All perpetrators in this study were admitted to general medical wards with medical disorders. However, they also had characteristics that posed a high risk of violence: a history of violence, substance abuse and cognitive dysfunction (Stewart and Bowers 2013; Pich et al 2010; Luck et al 2007). Therefore, as these perpetrators met the criteria for high risk of violence, their behaviour was predictable. Healthcare workers must remember that a past history of violence is the greatest predictor of future violence (Ferns 2005), that an estimated 40% of admitted patients have substance abuse issues (alcohol and drugs) (Phillips 2007) and of the violence potential within cognitive dysfunction (Luck et al 2007). Furthermore, they need to monitor behaviours used by Emergency Department (ED) nurses (Luck et al 2007) and non-ED nurses (Chapman et al 2009b), that serve as warnings of potential violence. These behaviours are summarise within the acronym STAMP: **S**taring and eye contact, **T**one and volume of voice, **A**nxiety, **M**umbling and **P**acing (Luck et al 2007).

Patient assessment is one of many preventative interventions required to address violence in healthcare, in combination with security systems, zero tolerance policies, organisational support, flagging/alert systems and education/training (Kling et al 2011; Kling et al 2006). Although training demonstrates short term success reducing violence (Kling et al 2011; Zarola and Leather 2006) there is evidence that recognising predictors of violence and implementing de-escalation influences the outcome of potentially violent situations (Jackson et al 2014; Chapman et al 2009a, 2009b). As a consequence of this study, and to align with the literature, training was amended to pro-actively promote early recognition of the predictors of violence and development of de-escalation strategies to avert exacerbation of violence (Jackson et al 2014; Chapman et al 2009b). Pro-active training promotes prevention rather than management of incidents and aligns with the WorkSafe Code of Practice (Commission for Occupational Safety and Health 2010).

Due to their social, medical and violence history, difficulties were experienced securing discharge accommodation for some perpetrators. Consequently, they exceeded the average length of stay (2.6 days) and perpetrated multiple incidents during their admission (eight, 12, 45 and 114 days). Frustration at this perceived lack of care may have contributed to recurring episodes of violence (Roche et al 2010). It is recommended that patients with known mental health illnesses are ‘fast-tracked’ to appropriate wards/units to reduce the risk of violence (Pich et al 2010), with a relationship identified between waiting for placement and violent/aggressive incidents (Roche et al 2010). Difficulties placing patients who meet the high risk criteria for violence can be anticipated at the time of admission and priority should be given to finding suitable places to ensure a safer workplace.

An advantage of the education intervention was that it placed experts within the study wards. This significantly increased knowledge and the use of verbal de-escalation, resulting in fewer incidents and recurring incidents. However, confidence and capability of the staff did not increase. These qualities may require more time to develop and may benefit from ongoing input from experts. Capability, (perceived ability, confidence and self-assurance to deal with conflict) was described as essential to prevent WPV (Zarola and Leather 2006), and raises concerns related to this study. Therefore, it is recommended that early contact is made with clinical experts when high risk patients are first identified, rather than following an incident, and that key ward staff are trained and mentored to develop confidence in managing patients with a risk for violence/aggression.

As the majority of staff were female nurses it is not surprising they were involved in the majority of incidents or that full-time staff were involved in more incidents. However two vulnerable groups stand out and align with literature: incidents involving a single nurse and staff with ≤48 month experience (Roche et al 2010). As a mechanism to protect staff from patients who pose a risk of violence, staff should not enter the patient room alone (Kling et al 2011). A prerequisite is that patients are assessed to identify those with a high risk for violence, that the risk is documented (notes and handover sheets) and verbally reported at shift changes and to everyone involved. When a history of violence/aggression is known, vigilance is required, as it is the greatest indicator of future behaviours (Pich et al. 2010; Chapman et al 2009b; Luck et al 2007). By contrast to the less experienced vulnerable group, nurses with more experience appear to be able to recognise signs that predict violence and then to take steps to de-escalate the situation (Roche et al 2010). Although all staff are at risk, this highlights the increased vulnerability of those with less experience and the need to reinforce these details within training sessions.

Limitations of this study include the sample size with incidents from just two wards. Furthermore, under-reporting is anticipated with these incidents inevitably omitted.

CONCLUSIONS

The purpose of this study was to assess the effectiveness of a clinically based education intervention. An outcome was that knowledge related to violence/aggression improved significantly as did the use of verbal de-escalation, and consequently both the frequency of incidents and the number of recurring incidents decreased. The education intervention provided information and coaching by clinical experts, with the results suggesting that access to clinical expertise enhanced the development of skill managing violence/aggression. The prevalence of violence within general hospitals is unlikely to spontaneously decrease. Therefore, it is essential to embrace pro-active strategies and have a planned response rather than reacting to incidents. This will ensure staff are better prepared to manage patients with a high risk for violence.

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The impact of clinical placement model on learning in nursing: A descriptive exploratory study

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KEYWORDS

Curriculum; nursing; nursing education; nursing students; professional role; placement

ABSTRACT

Background

Learning in the clinical setting is an essential component of nursing education. Two common models of clinical learning place students in facilities using either block or distributed approaches.

Aim

The aim of this study was to examine nursing students' perceptions of the impact of block versus distributed model of clinical placement on their learning experience.

Design

The study employed a descriptive, exploratory approach. Focus groups and an individual interview were conducted with third-year undergraduate nursing students.

Setting

Students from four Australian universities took part in the study.

Subjects

The average age of the 22 student participants was 37.5 years and 91% were female. More than half (55%) studied full time.

Results

Thematic analysis of the data identified five overarching themes: We're there to learn; Taking all that knowledge out and practising it; You actually feel a part of the team; Just prepare them for us coming; and It's really individual.

Conclusions

It is clear that both block and distributed modes of placement have inherent advantages and disadvantages that might be magnified depending on the individual student's circumstances. Sequencing, consistency and preparation must be considered when planning either mode of clinical placement to ensure the best possible experience for students. Most significantly, students need to feel as though they are part of the team while on placement to get the most out of the experience. These findings have implications for education providers planning the integration of clinical placement into the nursing curriculum.

INTRODUCTION

Nursing education must give students a comprehensive knowledge base to support critical thinking and clinical decision-making in expert practice. During undergraduate education, nursing students are taught theoretical foundations and given opportunities to practice skills in simulated environments before undertaking clinical placements across all years of their studies. Most nursing programs use either block or distributed models, or a combination of both (Walker et al 2013). In Australia the Australian Nursing and Midwifery Accreditation Council (ANMAC) sets minimum standards for professional experience acquired through clinical placements (ANMAC 2012). The standards do not, however, provide recommendations about the type of clinical placement model.

Choice of placement model is often determined by practical and financial factors rather than pedagogical needs. Current types of clinical placement in nursing education include block and distributed modes. The choice of placement model adopted by nurse educators is dependent on factors such as curriculum design, cost effectiveness and partnerships with health facilities – including contractual agreements (Walker et al 2013; Löfmark et al 2012). Block placement is based on the apprenticeship style of nurse training utilised prior to the transfer of nursing education to the university sector (which was finalised in 1992 in Australia). This model incorporates full-time placement for a period of weeks either within the study period or during semester breaks (Kevin et al 2010). The distributed model arose from a National Review of Nurse Education (Heath 2002) recommendation that undergraduate nursing students have weekly exposure to a broader range of clinical settings. Distributed placement requires students to attend placement and classes concurrently; for example two days in the clinical setting and three days of classes per week (Kevin et al 2010).

Research evidence (Levett-Jones et al 2008) suggests that short periods of one to two week block placements do not enable nursing students enough time to settle into the clinical setting, which influences their experience of ‘belongingness’. Clinical staff are also less likely to feel a sense of ownership of the process of block placement, resulting in inadequate time being allocated to meet students’ needs (Walker et al 2014; Levett-Jones et al 2008; Heath 2002).

Various studies (Kevin et al 2010; McKenna et al 2009; Ranse and Grealish 2007) report nursing students’ perceptions of the distributed model. Positive student outcomes include continuity, familiarity, greater opportunities for learning and early professional socialisation. However, students were critical of the lack of the time they had to prepare for weekly placements (Kevin et al 2010).

Little evidence in the current literature supports the efficacy of one model over another. While the broader literature provides evidence of factors influencing students’ and preceptors experiences of clinical placement (Paliadelis and Wood 2016; Courtney-Pratt et al 2015; Kevin et al 2010; Warne et al 2010; McKenna et al 2009; Ranse and Grealish 2007), a review of the literature failed to identify any studies that consider the efficacy of block placement versus distributed placement models. The lack of published evidence provides justification for this study, which aims to examine nursing students’ perceptions of the impact of block versus distributed model of clinical placement on their learning experience.

METHOD

Ethical approval was obtained from the university’s Human Research Ethics Committee. A descriptive exploratory design that employed focus group interviews with nursing students was used. Third-year students were recruited to ensure the participant group had the broadest possible experience of placement. Twelve institutions across one Australian state were approached to participate. Despite in principle widespread support, the limited availability of students during this final year of their program resulted in three focus group interviews and one individual interview being conducted with a total of 22 participants. Interview groups were undertaken at the students' universities during final-year teaching periods outside of students' scheduled classes. As this was a convenience sample across a diverse geographical area, each focus group was comprised of students from a single institution. The majority of participating students experienced both block and distributed placement during their studies.

Focus group interviews were conducted by at least one member of the research team, sometimes with the aid of a research assistant. Participants completed an anonymous survey that gathered demographic information such as gender, age, course and duration of enrolment. Focus groups have the advantage of bringing individuals with shared interests that stimulate interaction (Birks and Mills 2015). In this study the process was enhanced by the use of activities that engaged students and encouraged them to examine their previous placement experiences, including reflecting on factors that determined whether or not these were effective. Through this process of 'sharing and comparing' (Morgan 2012, p164) participants were encouraged to explore how and why characteristics of block and distributed modes of placement had the potential to enhance or detract from the learning experience. Interviews were recorded and transcribed for thematic analysis using qualitative data analysis software (NVivo). Materials such as post it notes and posters produced by participants during the interactive activities were also collected and used for clarification where necessary.

FINDINGS

The average age of the 22 participants, who were all from the same State, was 37.5 years (median: 37.5, range: 20 – 60), and 91% were female. A female academic also attended at one location, primarily as an observer. All participants were enrolled in a nursing degree program at the time of the study. Students recruited to the study were in their third (final) year of study though, on average, participants had been enrolled for 3.6 years (median: 3, range: 2.5 – 6). This can be explained by the variation in enrolment mode: 41% of participants studied part-time, while 55% studied full-time (5% enrolment mode not stated). Twenty-three percent of participants studied on-campus, 37% studied off-campus, and 9% studied in a mixed mode (on and off campus) (32% not stated).

Data from the transcripts were analysed to identify overarching themes. The five resultant themes were, *We're there to learn; Taking all that knowledge out and practising it; You actually feel a part of the team; Just prepare them for us coming;* and *It's really individual.*

"We're there to learn"

Study participants characterised the best placements as those that featured 'learning opportunities', i.e. situations that challenged students to make clinical decisions and acquire new skills. These learning opportunities materialised when three interrelated factors were in place: consistent expectations; clear understanding of the student scope of practice; and trust in student abilities. When students and staff knew which skills and behaviours were expected, students were free to focus on skill mastery without distraction, intimidation or frustration. Consistency in the supervising nurse was considered particularly important.

> *"I agree, consistency in the nurses [is good] because they're very different and they do their clinical skills different as well, which can make it confusing because you feel under pressure to do it the way they do it and then the next day you feel under pressure to do it the way [another nurse is] doing it."*

Participants generally found that block placements fostered consistency in the short-term, as opposed to distributed placements where "[i]n two days, you're just starting to get the hang of it and then you're not back until the week after or something". Individual student-supervisor relationships and the context of placement also had a bearing on consistency; for example an aged care facility or doctor's surgery was more likely to be characterised as consistent compared to a busy hospital ward. Consistency can present a barrier to learning if the student is barred from trying new skills. Regardless of mode, a common barrier to learning was uncertainty about students' scope of practice among both staff and students themselves:

> *"So nobody knows what you can and can't do. So they don't offer you the things that you want to learn how to do. You miss a lot of opportunities when no one knows what your scope is or when there's miscommunications about it."*

Though participants were usually eager to extend their skillsets, they were also acutely aware of the implications of practicing outside their scope:

> *"...the way she made me feel, I thought, oh my God, I'm going to get thrown off prac... so I was just shaking... I went to my bag and got out my scope of practice for prac... and... I just went to her and I said, 'look', you know, thinking I was in such big trouble, 'I just want to let you know this is what we've been told I'm allowed to do'."*

Participants did not perceive either placement mode as inherently better for promoting a clear understanding of the students' scope of practice, though one student commented that, hypothetically, it would be easier to delineate the scope in block placement, because:

> *"They'll know the days and the times that you're going to be there. Therefore they can go 'right, all of the students from [this subject], who can do exactly this, will be here, Monday to Friday on these three weeks'."*

"Taking all that knowledge out and practising it"

Clinical placement experiences should provide students with authentic learning experiences that enable them to consolidate knowledge. Sequencing appeared to be of greater importance than mode of placement for promoting integration of theory and practice.

> *"One of my placements was... for chronic, [but] we hadn't done acute... I'm like 'I have no idea what I'm doing'. They probably thought I was an idiot."*

Some participants suggested that distributed placements enabled students to integrate theory and practice more effectively because students had the opportunity to explore in greater depth what they encountered on the ward:

> *"...if you found something on placement that you wanted to research you had the time to. With block you've got the weekend and you've got to catch up on uni work, so you don't have the time to... look it up."*

Participants indicated that the appropriateness of placement mode shifted over time. While a distributed placement was perceived as a better fit for first-year students who required "balance" and "more time" to adjust to the clinical environment, block placements become more suitable as students' confidence and skills increased.

"You actually feel a part of the team"

Participants valued placements that supported the development of their identity as a nurse. Participants spoke highly of placements that best approximated 'authentic' or 'real life' working conditions, particularly being treated as part of the nursing team; managing shift work; being given responsibility for particular patients; and learning to adapt to changing circumstances. The allocation of meaningful nursing tasks to students offered mutual benefits:

> *"it really builds your self-confidence when you know that you can actually help and ... decrease someone's workload while you're there as well as actually learning. It means that when you go into the work force, you can go 'yeah I've done that heaps of times'."*

Participants generally found they were more likely to become part of the nursing team on distributed placements; the structure of this model enabled students to develop effective communication skills and to become familiar with staff and routines on the ward. Block placements, however, were perceived as being more 'realistic' in terms of exposure to shift work and increasing the likelihood of being present for routine ward activities (e.g., handovers). Participants also reasoned that the short period of full-time work during the block better replicated a registered nurse's schedule and fitted more easily around academic obligations (e.g., a student on block could work a night shift, just as a registered nurse might, without having to attend lectures the following morning).

Participants repeated that self-confidence was fostered when supervising nurses demonstrated confidence in students' ability to practise effectively, "The best thing that happened to me was I had a nurse who said, 'okay, you write the plan, I'm following you today, you're running the shift'." When staff validated students as knowledgeable, skilled future nurses, this provided a huge boost for students' confidence.

> *"I wasn't even referred to as a student. I was referred to as a colleague. It made you feel so good … 'this is my colleague, she would like to ask some questions, is that okay?' Yep. Awesome."*

However, this kind of validation was overshadowed by examples of participants' abilities being discounted, which can significantly limit learning opportunities:

> *"As soon as you walk onto that ward and you've got that student shirt, you're just nothing, you're just there to clean up for them while they went and had a coffee break or a smoke break."*

There appears to be little distinction between block and distributed modes in terms of reducing what participants referred to as the "stigma" of being a student. Rather, this is perceived as dependent on institutional culture, a complex variable not readily mitigated by the mode or sequencing of placement:

> *"I don't think it boils down to how often we're there, or how regularly we're there. I think it's just a culture thing."*

"Just prepare them for us coming"

While the factors discussed above have pedagogical importance, findings suggest that preparation and planning at the placement sites strongly influence students' placement learning experiences regardless of mode. Such organisational factors are peculiar to a given placement site and are, therefore, more difficult to control. Organisational issues raised by students included staff not anticipating students, students not being told where to go or who to work with, and an inappropriate mix of staff/supervisors.

> *"I was allocated to a placement where they didn't always have students. So I showed up, they didn't know I was coming and the two ladies said 'oh I'm not having a student' and the other one said 'well I'm not having a student'."*

Providing students with a comprehensive, practical orientation upon arrival is a key responsibility of placement sites. Without proper orientation students spend valuable time seeking mentorship and trying to orient themselves to the site (e.g., paperwork procedures, computers/library access, parking) rather than gaining valuable professional experience.

> *"Unless you have a really good facilitator that puts you with someone, it's up to you to sort of be like 'can I work with you?"*

"It's really individual"

Personal factors strongly influenced students' placement experiences. In particular, balancing placements with study, work and family commitments were key considerations for participants. The placement mode that was most effective for promoting learning was, therefore, determined at the individual level. Maintaining a balance between study and personal life was a prominent concern. Whilst acknowledging that “a little bit of pressure is (a) good” motivator, participants felt they were at high risk of ‘burn-out’ as a consequence of struggling to manage placement expectations, academic workload and personal responsibilities.

For parents with young children, block placements proved challenging. Block placements demanded students’ full-time attention for weeks at a time and were associated with greater financial burden. Costs cited included accommodation and fuel (for students placed away from their usual place of residence), childcare expenses, and lost earning opportunities:

> *“There’s some people who work on weekends and block works for them fine. But I think for a lot of us, that’s not the case and you’re expected to save up for it. But that’s nigh on impossible.”*

Several participants commented that while distributed placements presented some pragmatic benefits, block placements offered the distinct advantage of encouraging a singular focus on the placement experience:

> *“I think that it’s handy having block, because you know the rest of your life stops during this period. That’s it. …it’s nice to know, in this period of time, the rest of life stops.”*

DISCUSSION

The clinical experience component of pre-registration nursing programs is the most important factor in the development of reflective, evidence based practitioners who are committed to ensuring quality outcomes in the practice environment (Henderson et al 2012). Participants in this study were aware of the important role that clinical placement played in the consolidation of learning. While the block placement model was considered by some participants to offer a realistic and authentic experience of the registered nurse role, numerous other factors determined which mode of placement was considered most conducive to learning. Of these factors, consistency was seen as one of the most critical. Consistency supports continuity and could take the form of working with the same staff, returning to the same environment, or being in a given environment over a period of time (Gilmour et al 2013). Participants felt that consistency facilitated familiarity between students and staff, particularly in relation to students’ capabilities; similar findings were reported in Courtney-Pratt et al (2012). Block placements were generally perceived to be more likely to support consistency, a concept supported by Levett-Jones et al (2008) who found that a settling-in period preceded the ability of students to focus on learning at each placement. For participants in that study, the capacity to benefit fully from learning opportunities was limited in shorter placements. Personal preferences and lifestyle factors determined the extent to which a student would find one or the other mode of placement more conducive to learning. Block placement can create a situation of difficulty, even hardship, for some students. Where such pressures do not exist, block placement can provide an opportunity for focused learning.

The current climate in which clinical placements for nursing students is negotiated is complex and driven by numerous factors that are often beyond the control of the educational institution. Quality clinical placements are secured in a competitive environment as all institutions seek to meet the minimum requirements for registration of graduates determined by the accrediting authority (ANMAC 2012). Clinical venues also struggle to support these requirements within political and economic constraints. These factors contribute to the issues identified by participants in this study in relation to planning for placements. Adequate preparation of clinical environments and the staff who support students undertaking clinical placement (Courtney-Pratt et al 2012) is essential for ensuring a quality learning experience. This might be as simple as ensuring staff at the unit level are aware that students will be on placement at a given time. As described in this study, students can feel very unwelcome and be derailed from the outset if their arrival is not expected by clinical staff (Gilmour et al 2013).

Participants did identify some aspects of the clinical experience that could be improved by the educational institutions themselves, particularly in respect of the scheduling of clinical placement relative to the curriculum. Aligning practical exposure with theoretical instruction has become increasingly difficult for nurse academics in recent decades because of growth in student numbers. This study indicated the impact that this misalignment of theory and practice can have on the learning of related concepts. In respect of sequencing of modes, distributed placements may be of greater value earlier in the program of study, with block placements being more beneficial during the later stages as students build confidence. This finding reflects that of Roxburgh (2014) who found that supportive models used earlier in a nursing program built resilience for a different model of placement in subsequent years.

Participants in this study highlighted the importance of feeling part of a team, reflecting the findings of participants in studies by both Courtney-Pratt et al (2012) and Gilmour et al (2013) who felt that this level of acceptance was critical to ensuring a positive placement experience. Participants in this study found that becoming part of a team was more likely to occur with a distributed placement model, an outcome inconsistent with the work of Levett-Jones et al (2008). Participants in this study also discussed the importance of staff having confidence in the student's ability to function in the clinical environment. Confidence was instilled when registered nurses trusted students to take on greater responsibility, similar to the experience of midwifery students in Gilmour et al's study (2013). The results presented in the preceding section suggest that participants felt this confidence was more effectively built with a distributed model, once again at odds with the work of Levett-Jones et al (2008). When students did not feel as though they were part of a team, the clinical placement experience could be negative and learning potential was reduced. The findings reported in this paper reveal the stigma associated with being a student. Participants found environments that "were not welcoming or facilitative of their learning" (Levett-Jones et al 2008, p14) had little benefit, regardless of mode.

RECOMMENDATIONS AND LIMITATIONS

It is clear that both block and distributed modes of placement have inherent advantages and disadvantages. The results of this study showed that block placements were regarded by students as more effective than distributed placements in three main areas: gaining a realistic sense of the work, routines and schedules of nursing; encouraging a singular focus on placement; consistency in teaching and learning style of clinical supervisors. On the other hand, distributed placements were regarded as more conducive to the following: work life balance; integrating theory and practice; developing the feeling that one was 'part of the team'. Students also said that the placement model had little bearing on a number of crucial factors that affected their learning, such as uncertainty about scope of practice; readiness of the workplace to manage placements; and the 'stigma' of being a student nurse.

While individual factors will often determine the value of clinical learning, measures can be taken to enhance student learning experiences regardless of the placement model employed. Such measures include:

- ensuring appropriate sequencing of placements to align with theoretical and chronological stages of study;
- promoting consistency by enabling students to return to a familiar venue;
- adequately preparing the clinical environment for the students they receive on placement; and
- establishing a culture that encourages students to feel as though they are members of the team.

The main limitation of this study was that it was confined to one state and was constrained by student availability in their critical final year of study. While the models of placement described in this paper reflect those in other parts of the country, it is acknowledged that different approaches to clinical experience placement are used internationally. Future research may explore the potential application of these diverse models to the local context; or the perspectives of a broader cross section of students and/or staff of clinical and educational institutions. Targeted research that develops strategies to address learning in the clinical environment more broadly would also prove valuable.

CONCLUSION

Professional experience in the clinical environment is crucially important for students of nursing. As the resources available to support students on clinical placement are subject to increasing stressors, it is critical that the quality of the experience not be compromised. Consideration needs to be given, therefore, to identifying the most appropriate placement model to support student learning. Placement models vary by institution, but preparation of students and staff in the clinical setting is critical to the success of the placement experience. Such preparation provides a foundation for the development of relationships that contribute to students feeling part of a team. This sense of belonging is inextricably linked to the facilitation of positive learning experiences that are critical to preparation for the professional role.

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Can patients and their caregivers boost identification of HIV Associated Neurocognitive Disorder (HAND)?

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KEY WORDS

People living with HIV, HIV associated neurocognitive disorder, mild neurocognitive disorder, caregiver

ABSTRACT

HIV associated neurocognitive disorder (HAND) may be difficult to identify as signs and symptoms (S&S) are nonspecific.

Objective

To ascertain whether people living with HIV and their caregivers using a self reflective tool could identify S&S of HAND.

Design

This study was a nurse led prospective observational multi-site study using a quantitative design.

Setting

Participants were recruited from three sites in Sydney, New South Wales (NSW), Australia: an inner metropolitan HIV clinic, an inner metropolitan sexual health clinic and a suburban hospital HIV clinic.

Subjects

121 patients and 44 caregivers who attended ambulatory clinics providing HIV care.

Main Outcome Measures

Observing usual standard of care to follow patients who had formal neuropsychological testing and diagnosis of HAND.

Results

Sixty one percent of participants and 57% of caregivers identified more than four symptoms. Sixteen had neuropsychological exams; five were diagnosed with HAND. After changes to their medication regime all of those five showed an improvement in cognition. Of the remaining 11, four results were inconclusive, with some deficits noted.

Conclusion

Patients and caregivers stated the booklet helped them to reflect on behavior changes which they could subsequently discuss with their doctor. The booklet was considered useful to identify S&S which could indicate HAND.

INTRODUCTION

HIV is treated with medications known as antiretroviral drugs which has had a substantial positive impact on morbidity and mortality for People Living with HIV (PLHIV) and has resulted in life expectancy approaching population norms for those individuals who have optimal adherence to HIV medications. (Clifford and Ances 2013). Yet, despite HIV virological suppression and immune recovery, studies suggest 30% of PLHIV are affected by HIV associated neurocognitive disorder (HAND), (Clifford and Ances 2013; del Palacio et al 2012; Heaton et al 2010) significantly impacting quality of life (Tozzi et al 2004).

In the 1980s, the clinical features of AIDS dementia complex (ADC) were those of a sub-cortical dementia characterised by cognitive impairment, behavioural abnormalities and disturbed motor function. With the introduction of antiretroviral medications, ADC largely disappeared from clinical practice, but now milder forms of cognitive impairment are being observed. In 2007, the classification for ADC was revised, and is now known as HAND. HAND is divided into three categories, each with varying degrees of disability impacting quality of life: Asymptomatic Neurocognitive Impairment (ANI), Mild Neurocognitive Disorder (MND), which causes symptomatic disease, and HIV Associated Dementia (HAD) (Antorini et al 2007). This study focuses on the signs and symptoms (S&S) associated with MND.

MND affects the person's ability to perform activities of daily living such as preparing meals, managing finances, attending doctors' appointments and driving. It may also affect their social relationships and the ability to retain employment or be promoted. Caregivers can have a positive effect on the health and well being of PLHIV (Gisslen et al 2011) and may be well placed to notice any changes in the PLHIV. Signs and symptoms of MND may be subtle and are potentially normalised by PLHIV and may be difficult to detect by clinicians. Individuals may start to notice mild memory problems and slowness, difficulties in concentration, planning and multitasking (Schouten et al 2011; Heaton et al 2010; Grant 2008).

A booklet was developed (Trotter and Cummins 2008) to be used by patients and caregivers to reflect on whether the person was experiencing signs and symptoms which may indicate HAND. Information in the booklet focused on four key areas that affect cognition (memory, concentration, motor skills and social skills) for patients and their caregivers to reflect on any changes in cognition. Using the booklet enabled the caregiver to recognise potential signs and symptoms of MND. It should be noted that some PLHIV may be socially isolated (McDonald et al 2013) and not have the support of a caregiver and may have no one they can rely upon who may notice changes in their cognition including memory, motor function and social behaviour.

There are currently no biological markers for a definitive diagnosis of HAND (Atluri et al 2014). Studies suggest predictors of HAND are: past history of AIDS defining central nervous system disease (Fabiani et al 2013), other central nervous system disease (Valcour et al 2004), low CD4 cell count (Schouten et al 2011), drug and alcohol use (Fiala et al 2005), low education level (Tedaldi et al 2015), and Hepatitis C infection (Schouten et al 2012).

PLHIV with cognitive impairment including HAND, have been shown to be less adherent to HIV medication regimes. (Robertson et al 2010; Skinner et al 2009). This may lead to drug resistant HIV, resulting in their current medication regime becoming ineffective (Robertson et al 2010; Skinner et al 2009). Morbidity and mortality can then be affected as the person experiences poor health outcomes secondary to impaired adherence (Thames et al 2011).

If identified and treated early, using HIV drug treatment or changing the medication regimen to medications which have a higher CNS penetration via the blood brain barrier (Letendre et al 2010) may lead to improvement in previous cognitive changes related to MND thus improving outcomes for patients (Cysique et al 2009).

In addition as PLHIV age they may be at risk of other neurologic conditions associated with ageing such as vascular dementia and Alzheimer's disease (del Palacio et al 2012). Thus the complexity of neurological health for PLHIV may be on the increase. The prevalence of MND among PLHIV in Sydney, NSW is unknown. There is a paucity of literature regarding PLHIV's experiences of and their reflections that is consideration of any changes in cognition in the last 12 months and any signs and symptoms they are currently experiencing which may be indicators of HAND.

METHOD

Aim

To consider the value of patient and caregiver use of a self-assessment booklet in leading to early medical assessment of MND.

Design

A quantitative study from a prospective observational multi-site study to explore the usefulness of a patient self-assessment booklet "HIV associated MND: How to recognise signs and symptoms" developed by two of the authors (Trotter and Cummins 2008) by assisting PLHIV and their caregivers in recognising any signs and symptoms of cognitive impairment as noted in the booklet. This is not a validated tool but was developed to explore whether patients were experiencing any signs and symptoms which could indicate HAND. The study period ran over 28 months from June 2012 to October 2014.

Setting

The study was conducted at three outpatient sites within two Health Districts covering a greater part of Sydney, NSW, Australia.

Each site provides HIV specialist care: an inner city hospital based clinic, an inner city sexual health clinic and a suburban hospital based clinic. The inner city clinics are in the inner west of Sydney which has the second highest number of HIV diagnoses in NSW, Australia. A high proportion of patients seen at these clinics are men having sex with men (NSW HIV Strategy 2012-2015). The suburban hospital HIV clinic is in the outer suburbs of Sydney and cares for a high proportion of participants from culturally and linguistically diverse (CaLD) backgrounds.

Participants

Participants were recruited whilst attending their regular multi-disciplinary consultation reviews at outpatient clinics at one of the three sites. Participants were eligible for inclusion if they were HIV positive over 18 years of age and they provided written consent at time of recruitment. Participants could nominate a caregiver to be invited to participate in the study. For the purpose of this study caregivers were considered unpaid individuals who provide practical, emotional or financial support to the person, such as partners, family members and friends. Initial recruitment was over a four month period in 2012.

Individuals were excluded if they were diagnosed with HIV in the last twelve months; had a preexisting identified cognitive impairment; were experiencing current social chaos or had inadequate English language skills. As depression may confound cognitive symptoms (Woods et al 2009), patients who had current untreated depression were excluded but became eligible once their depression was treated. Current alcohol and substance use was assessed and patients with dysfunctional use were excluded from the study until substance and alcohol use was addressed.

Participants completed a demographic questionnaire and were given the booklet "HIV associated MND: How to recognise signs and symptoms" (Trotter and Cummins 2008). The self assessment booklet was developed by a HIV Psychiatrist and HIV Clinical Nurse Consultants, informed by literature review and professional experience. It was focus group tested for readability, clarity, design, flow and acceptability. The booklet has 36 items grouped into four categories of behaviours: concentration, memory, motor skills and social issues. Additionally the booklet had information in it noting how S&S may be misread as depression, ageing or being more stressed; but not to "panic" as having a clinical review would lead to a definitive diagnosis which could be treated.

Participants and caregivers were provided with the booklet and were asked to reflect on any changes experienced or observed over the last twelve months. If they noted any change in behaviour over the previous twelve months we asked them to respond "Yes" to each relevant item. They were contacted two weeks later via telephone to provide responses to items selected from the booklet.

A file audit was attended to ascertain specific risk factors for cognitive impairment including the participants' HIV viral load, CD4 T cell nadir and current CD4 T cell count. Current medication regimen was noted. The researchers observed the usual standard of care at medical consultations. Initially the researchers asked participants to discuss items identified in the booklet with their doctor during the next consultation. It became apparent that the discussion was not taking place as participants stated they were either "not remembering" to mention issues to the doctor, "did not think it was important" or there "was not enough time". The researchers intervened by transcribing the list of items selected by participant and/or their nominated carer, placing the list in a prominent place in the clinical notes to promote discussion at the next appointment. This resulted in increased discussions of the items selected.

As there was no other PLHIV self-reflective booklet available at the time to use as a guide, the researchers decided selection of four or more items would be flagged with medical practitioner for patient discussion. Previously clinical judgement and incidental anecdotal evidence from PLHIVs was relied on to discuss issues relating to HAND.

All neuropsychological testing was conducted by a trained clinical neuropsychologist. This procedure followed the usual required battery of tests required as a neuropsychological exam. The results were made available for the researchers to ascertain which participants completed the exam and final results. The clinical review process of participants diagnosed with MND was observed for changes in treatment prescribed by their doctor and the outcome of the treatment. Data entry was completed by one member of the team who was not involved in the recruitment process.

STATISTICAL ANALYSES

Data was analysed using SPSS (V21 IBM Corporation Armonk, NYI, USA). Analysis included presentation of descriptive statistics, Chi Square tests, Mann Whitney and Kruskall Wallis tests as indicated.

ETHICS

Ethics submission had been approved by Royal Prince Alfred Hospital Research Ethics Committee (X10-0354+ HREC/10/RPAH/618) and Liverpool Hospital Research Ethics Committee (SSA/11/LPOOL/203) Sydney Australia.

RESULTS

Of 330 people screened for enrolment in the study 165 (50%) were ineligible including 30 (9%) who declined participation. At the suburban hospital site 30 people were not screened for enrolment due to limited staffing issues during study period which impacted on the overall number of participants able to be recruited at that site. Table 1 summarises the exclusion criteria of the 165 ineligible PLHIV.

Table 1: Exclusion criteria of patients excluded

Criteria	Total
New Diagnosis of HIV	12
Pre-existing Ccognitive Impairment	34
Social chaos	16
Poor English	44
Drug and Alcohol Use	16
Current untreated depression	13
Declined	30
Total excluded	165

In total 121 participants and 44 caregivers across the three sites were recruited (table 2).

Table 2: Participants and Caregivers recruited

Participants Recruited	Total
Number of participants	121 (100%)
Number of participants who identified 4 or more S&S	74 (61%)
Number of caregivers	44 (100%)
Number of caregivers who identified 4 or more S&S	25 (57%)

More than one third of participants (39%) noticed some behaviour change in themselves and 28 (23%) were concerned about these changes in behaviour.

The mean age of participants was 49 years old, range 25 to 75years. The median was also 49 age was normally distributed; <40 years (n=25), 41-50 years (n=48), 51-60 years (n=31), 61-70 years (n=16) and >71 (n=1). Sixty one per cent identified four or more S&S and of these four, after further investigation, were diagnosed with HAND but there was no difference in age in those diagnosed with HAND (mean 48) and those without HAND (mean 49) with a p value of 0.845. Ninety six per cent were men (116). Forty nine participants (40.5%) lived alone, 46 (38%) lived with a partner and 24 (20 %) lived in shared households. Two participants lived (2 %) with children.

Depression

Forty eight (39.7%) participants had a history of depression, which is consistent with the prevalence of depression in HIV positive populations (Grierson et al 2009). Thirty two (26.4%) were currently being treated for depression. Those with depression tended to have more symptoms selected from the booklet than those without current depression. P=0.056 Mann Whitney Test.

HIV Information

The median duration of HIV infection of participants was 10 years, range (0 – 29) which indicated the participants had been infected for some time and therefore be at increased risk of developing co-morbid conditions. The CD4 T lymphocyte cell count is a marker of antiretroviral treatment responses and HIV disease progression. The participants' median CD4 count was 590x10^{7} (10 – 1720) which is within normal limits, indicating that participants have adequate immunity; CD4 nadir count is the lowest it has ever reached and low CD4 nadir count is also a predictor of HAND, the median CD4 nadir was well below normal CD4 count at 180 x10^{7} (0 – 750); median prescribed antiretroviral medications therapy was six years (0 – 28).

Risk factors for non-HIV related cognitive impairment

Many PLHIV have co-morbid conditions. A review of participants' clinical notes revealed some risk factors for non-HIV related cognitive impairment were documented in all notes (table 3). Of these factors, none were statistically significant.

Table 3: Identified from clinical notes patient risk factors for cognitive impairment

Current Conditions	Yes	P Mann Whitney	P t test
Hepatitis C virus	10 (8.3%)	0.046	0.159
Hypertension	31 (25.6)	0.443	0.155
Prescribed Antihypertensive drug	29 (24%)	0.734	0.280
Hypercholesterolemia	79 (65.3%)	0.803	0.452
Hyperlipidaemia	61 (50.4%)	0.203	0.406
Sleep Apnoea	5 (4.1%)	0.498	0.361
Diabetes	7 (5.8%)	0.078	0.033
Current smoker	38 (31.4)	0.010 (Kruskal Wallis)	Anova

Antiretroviral medications

Ninety four per cent (114) were currently taking antiretroviral medications. Of these, 30% (n=36) were on a once daily co-formulated single pill regimen, and 33 (n=40) took three or more pills per day.

Eleven percent (n=13) had missed more than two doses of medications in the last month. There was a trend for a higher number of symptoms in the group who were not adhering to their medications P=0.070 Mann Whitney Test.

Caregivers

Seventy seven participants (64%) did not nominate a caregiver to be contacted. Six caregivers declined to be involved. The suburban hospital recruits (n=14) did not identify any caregivers. Of the caregivers identified (n=44), 82% (n=36) were male and 18% (n=8) were female. The relationship of the caregiver to the PLHIV varied: twenty-eight were male same sex partners, six were female partners of men, three were husbands of women, one was a mother, one a son, four were male friends and one was a female friend. Forty two percent (n=15) of the caregivers identified as PLHIV.

The most reported symptoms by both caregivers (47%) and participants (67%) was “being mentally tired at end of day” and caregivers (64%) and participants (67%), “have you noticed you don’t go out socially as much as you used to?”

Neuropsychological examination

Twenty three (31%) of the 74 participants who identified more than four S&S from the booklet were offered clinical neuropsychological examination following consultation and clinical review by their doctor. Seventy percent (n=16) underwent the usual standard battery of tests performed in the clinical neuropsychological examination and 30% (n=7) declined testing (table 4). Four participants (25%) of the 16 that had completed a clinical neuropsychological examination were diagnosed with MND as a result of these examinations.

Table 4: Neuropsychological Exam Results

Number of Neuropsychological exam (n=16)	Results of Neuropsychological exam
5 (31%)	Inconclusive, ongoing monitoring recommended
7(44%)	Within normal limits (1 depression, 1 sleep apnoea)
4 (25%)	MND diagnoses (medication regimen optimised, subsequent improved cognition noted)

DISCUSSION

MND can have a detrimental impact on the health and well-being of PLHIV. As part of the HAND spectrum, MND may be difficult to identify because key signs and symptoms of MND may be subtle and often the PLHIV and their caregivers may believe signs and symptoms are attributable to other issues such as ageing, stress and/or lifestyle factors.

There were no previous studies regarding PLHIV and/or Caregivers' self-reflection of signs and symptoms of cognition to guide us. The researchers chose the identification of four or more symptoms by either participants or caregivers as a cue to monitor subsequent investigations and current standard of care. The 61% of participants and 57% of caregivers who identified four or more symptoms supported adoption of using the booklet to reflect on changes in the participants behaviour.

Caregivers are well placed to notice changes in cognitive behaviour (Glissen et al 2011). Many stated they welcomed being involved in the study and that using the booklet to help reflect on the PLHIVs behaviour enabled them to start a discussion regarding behaviours they had noticed but did not know how to raise with the person. In addition some of the caregivers also identified as PLHIV and this may impact on future support if they as the caregiver also become ill or cognitively impaired.

Many of the participants live alone and did not identify caregivers who may be well placed to notice any changes in cognitive behaviour. At one site, none of the participants identified a caregiver. A majority (70%) of these participants were MSM who were married to women. Their lifestyle did not include HIV culture of gay men in Australia, perhaps best illustrated by one participant "We don't talk about the HIV much, and I sure don't want to mention this". The clinician needs to be more vigilant in asking PLHIV without identified carers about cognition. The combination of PLHIV reflecting regularly on their behaviour and staff with a therapeutic relationship with the PLHIV, including knowing their social situation may combine to improve identification of impairment (as PLHIV may underrate signs and symptoms). As this population age they may become isolated socially (McDonald et al 2013) and the relationship with their clinician may become very important for asking questions about cognition. Discussion of cognition and memory should be incorporated and normalised into an annual review of HIV care, and may result in early detection (Wright and Watson 2012). This may reduce fear and apprehension of results from neuropsychological testing and enhanced discussion of signs and symptoms (several participants declined testing due to fear of the outcome and being labelled cognitively impaired).

Regular reflection by the PLHIV and their caregiver may assist in early interventions for HAND screening and diagnosis. Many of the participants had long standing HIV which may place them at risk of developing HAND even though their HIV was well managed (Antorini et al 2007). The average age of participants was 49 years and as they age they may be at risk of developing co-morbidities such as heart disease which may affect cognitive impairment and may need to be closely monitored for signs and symptoms of cognitive impairment. The greatest co morbidity risk factors for cognitive impairment identified in the participants were vascular risk factors, such as: current nicotine smoking (31%), those with hypercholesterolaemia (65%), hyperlipidaemia (50%), or hypertension (25%) (table 3). These figures point to the need to monitor patients and develop strategies to improve management of co-morbidities such as smoking cessation. In addition successful management of co-morbidities may help improve HAND outcomes (Wright and Watson 2012).

The signs and symptoms of depression may confound MND diagnosis so it is important to screen the PLHIV for this (Grierson et al 2009). Forty per cent of participants in this study had a previous history of depression, 26% were currently being treated for depression and 9% identified signs and symptoms of depression, and so were excluded from the study until reviewed by their doctor. The group who were currently being treated for depression were non-significantly more likely to have S & S of cognitive impairment (p=0.056). Many PLHIV were excluded from this study due to current untreated depression, substance use issues and language difficulties. Early detection and treatment of depression, providing assistance with depression and substance issues and developing resources in different languages would support improvement of rates of PLHIV being identified with and treated for MND.

Ninety four per cent of the participants were prescribed antiretroviral medications. Of these 33% were taking more than three antiretroviral drugs. The researchers did not enquire about other medications. Pill burden may be a factor in adherence (Robertson et al 2010; Skinner et al 2009). Eleven per cent had missed > 2 doses of medications in the last month. This group had a non-significantly higher number of items from the booklet (P=0.070).There is a potential for a closed feedback loop whereby the patient with adherence problems may, as a result of the poor adherence, suffer further cognitive decline, leading to further impairment of adherence.

This study enabled some people who would otherwise been missed to be identified and referred for neuropsychological assessment. Using this booklet PLHIV were able to reflect and use the booklet to report to clinicians, leading to neuropsychological testing. Several had their treatments changed by their doctor to a regime that had improved central nervous system penetration and had improvements in cognition when subsequently reviewed (table 4). Thirty per cent of PLHIV offered neuropsychological testing declined. Nurses are well placed to explore the reasons for declining and facilitating understanding of the improved outcomes formal testing could facilitate. The therapeutic relationship between patient and nurse may promote an open conversation, allowing the nurse to provide information to the PLHIV enabling further assessment and investigations.

Initially participants did not divulge items they had noticed from the booklet with their doctor as they did not think it was important, forgot or ran out of time. Nurses are well placed to discuss this with patients prior to their appointment with their doctor, to ask if the person has noticed any recent changes in cognitive symptoms or behaviours. Information from this discussion can be documented and brought to the attention of the doctor prior to the consultation. Nurses can use the booklet to initiate discussion and with regular questioning normalise the issue with the patient. Scheduled annual review of the patient would also be of benefit, utilising the initial documentation as a baseline for noticing changes in behavior and cognition.

LIMITATIONS/CHALLENGES

There were several challenges during this study.

There was no HIV negative matched comparison group for this study. This study was designed to follow the patient through their usual standard of care at the clinic they attended. Future studies could include a comparison group.

As there was no validated self reflective tool available we relied on professional judgement and incidental anecdotal evidence from PLHIVs to discuss issues relating to HAND. The researchers decided to flag if four or more items from the booklet were selected.

The small number of patients diagnosed with HAND (four) limited further analysis particularly in relation to age and further study is needed to clarify if there is a distinction between HAND and other age related neurocognitive or psychogeriatric conditions.

Exclusion of people who had inadequate English language skills made many participants ineligible for the study. Translation of the resource into community languages would assist in recruitment of this group in future.

IMPLICATIONS FOR PRACTICE

Nurses providing care and support to PLHIV should be aware of HAND and what questions to ask, and should further explore patients' experience. A booklet exists which can be used by clinicians, patients and their carers to start a conversation about any signs and symptoms the PLHIV may be experiencing - assisting the PLHIV to reflect on recent changes in behaviour such as memory and concentration problems which could affect their quality of life. Reflection of change may prompt further exploration by their doctor of cognitive decline.

Early recognition and treatment may have a positive impact on the health and well being of the patient by reducing signs and symptoms and restoring independence.

As PLHIVs age and are at risk of developing other diseases of the brain, a HAND diagnosis should be considered in a neurological setting.

CONCLUSION

PLHIV are experiencing signs and symptoms of cognitive impairment which can affect their quality of life. HAND is a diagnosis of exclusion and PLHIV and their caregivers can have a major part in recognising signs and symptoms. Self-reflection is very important, as is reflection from caregivers.

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Australian undergraduate nursing students' opinions on mental illness

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KEYWORDS

competencies, forensics, mental health, nursing.

ABSTRACT

Objective

To determine second year Bachelor of Nursing students' opinions on mental illness and relationship with demographic data for the purpose of curriculum development.

Design

The present study is a pilot study for a larger project which will investigate undergraduate nursing student opinions across the duration of their undergraduate degree at an Australian university. The 'Student Opinions of Mental Illness Scale', a 53 point Likert type questionnaire was used in a sample of second year nursing students to investigate their opinions of mental illness.

Setting

Metropolitan nursing school in Victoria, Australia.

Subjects

133 second year undergraduate Bachelor of Nursing students'.

Main outcome measures

Student opinions based on Likert responses.

Results

The study revealed that student experiences, education, employment history of country of birth may impact upon student opinions of mental illness.

Conclusion

Overall, students were found to have a generally neutral opinion about mental illness except in the sub-scale factors of benevolence, mental hygiene ideology and interpersonal aetiology where students held less positive opinions. Knowing the student populations opinions about a subject matter can assist academics to direct and focus their efforts to improve those opinions in those areas.

INTRODUCTION

Background

Many authors have recognised the importance of understanding and recognising students' perceptions of mental illness. A number of studies have also been conducted using an undergraduate nursing population throughout the world, including Jordanian (Hamaideh and Mudallal 2009), Japanese (Takashi et al 2011) and British (Schafer et al 2011) students. Only one study has, however, investigated undergraduate nursing students' opinions about mental illness within an Australian population (Happell 2009). All of these studies again used Likert type scale questionnaires, including the 'Opinions of Mental Illness Scale' created by Cohen and Struening (1962). In all of these studies the researchers consistently found that students' opinions about mental illness improved with increased contact with people with mental illness and/or with more mental health education. Several authors, such as Hamaideh and Mudallal (2009) and Happell (2009), also hypothesised that any negative opinions that remained after training and education, highlighted an opportunity for further curriculum development. The larger study for which this pilot is a precursor, will be the first of its kind to follow a sample of undergraduate nursing students throughout their degree to determine how opinions shift or change and what it is that influences those opinions.

Significance

Research suggests that stress in the learning environment can lead to poor coping skills, subsequently damaging the students' ability to academically perform to the best of their ability (Duffy 2009; Tully 2004). It is important to identify any stress or anxiety experienced by students in order to be able to provide support and assistance, thereby promoting a positive learning experience. Where stress is not managed, students' abilities in the clinical arena may be negatively affected, such as by impairing their interactions with clients and subsequently failing to meet clinical objectives (Duffy 2009; Tully 2004). After recognising this in a population of undergraduate nursing students, Ganzer and Zauderer (2013) developed a program designed to alleviate these stressors and improve the learning experience. Although not studied at an undergraduate student level, negative opinions on mental illness held by health care professionals have been shown to impede upon achieving professional competence in nursing (Crisp 1999).

The findings of this research can be used to inform future mental health nursing curriculum. In particular, the study highlights the need to consider the demographics of the student population and the effect of those demographics on student opinions. This may determine particular areas of learning that require more time allocation or indicate where one method of teaching is required over another (for example the use of real case simulation exercises versus use of theory and written activities). The results of this study will be directly considered when developing the third year mental health unit including designing the course material and delivery methods for each module of learning. The results will also be used to inform the larger project which may in turn inform future curriculum development, particularly in relation to the quantity, timing and content of mental health nursing units.

Aim

This study is a pilot study for a larger project investigating students' attitudes towards mental illness throughout their progression through a three year undergraduate pre-registration nursing degree. This pilot study tested the research design and tools in a smaller population of students. The overall aim of this study was to investigate nursing students' perceptions of mental illness.

Research questions included:

1. What are second year undergraduate nursing students' opinions about mental illness? Do demographic variables affect these attitudes?
2. Does a mental health placement and/or exposure to people with mental illness affect students' opinions about mental illness?
3. What are the limitations or difficulties, if any, of the study design that need to be considered when conducting the larger study?

METHODS

Sample and recruitment

A Victorian University located in Melbourne was chosen as the site for this study. This site was chosen out of convenience. Permission was received from the Universities Human Research and Ethics Committee to conduct the study. All participants were over the age of 18. All participation was voluntary, however participants were offered a small incentive to participate (a chance to go in the draw for movie tickets) in order to promote recruitment. Researcher bias was limited as the participants had no direct contact with the researcher throughout the data collection process, and all completed questionnaires remained anonymous.

A convenience method of sampling was used, with all second year students invited to participate. Due to researcher time pressures, the study was only conducted face to face, with no online option available for participation. No advertising was conducted. Students were invited to participate by their tutors in their acute care tutorial. Recruitment and completion of the study occurred simultaneously, with completion of the questionnaire indicating consent to participate.

Instruments

The study used the 'Opinions on Mental Illness Scale' (Cohen and Struening 1962), which was initially developed to investigate the opinions on mental illness of staff at two large "mental hospitals" in New York. The 53 item questionnaire asks participants for their opinions about mental illness over five dimensions ('factors'): (A) authoritarianism, (B) benevolence, (C) mental hygiene ideology, (D) social restrictiveness, and (E) interpersonal aetiology. The questionnaire is presented in a Likert format with provision following each item for a checked response on a six point agreement continuum.

The validity and reliability correlation coefficients for each of the OMI factors are above 50 in each factor except for Factor D (Cohen and Struening 1962). The authors justified the poorer reliability of Factor D as Factor D having been found to have high validity coefficients and significant demographic correlates, therefore deeming its reliability as 'adequate' for the purposes of meeting the objectives of the tool (Cohen and Struening 1962). The OMI tool has been used on numerous occasions since its development, including for the determination of the opinions of mental illness of undergraduate students from a variety of health related fields (Takashi et al 2011; Probost and Peuskens 2010; Hamaideh and Mudallal 2009).

Data collection and procedure

In the present study, data was collected at the end of semester two, after students had completed their first mental health unit in their nursing degree. Participants were invited to complete the questionnaire at the end of an acute care tutorial and had the option of either completing the questionnaire in class or returning it to a confidential box left available in a shared space of the Nursing building. All data entry and analysis was conducted by the primary researcher using the Statistical Package for the Social Sciences (version 22).

Strengths and weaknesses

The results of this study will only be generalisable to similar student cohorts where similar teaching and learning methods are employed to those used during the study. A significant weakness of this study is the small sample size. A small sample size has the effect of reducing the likelihood that any statistically significant result reflects a true result (Button et al 2013) and therefore limits the reliability of these results. Whilst this limits the ability to reliably apply the results to other cohorts of students, and despite this sample being only 10% of the total of second year nursing students, these results may be used when considering curriculum content requirements for this cohort of students in the future. Again, however, this is further limited as little is known about the representativeness of the sample against the larger population.

The major strength of this study is its ability to be reproduced in a consistent manner. Although the current research design yielded few results, with amendments to the recruitment process and increased flexibility in method of participation, the instrument used continues to appear to be a reliable and efficacious method for determining students' opinions on mental illness.

FINDINGS

Sample and recruitment

A total of 133 students participated in the study. The average participant age was 24 (*SD* 5.4), with more women than men participating (6 men to 27 women). Reflective of the larger student population, participants' places of birth were worldwide (see figure 1). Although the majority of participants were born in Australia, they were 50% more likely to have had both parents born outside of Australia. The majority of students had some form of current employment at the time of completing the questionnaire, with only five participants reporting they were unemployed. Whilst occupations varied, 39% of participants were working in a health care related field, either as a personal care assistant ('PCA') or as an enrolled nurse ('EN') (see figure 2). Participants were not asked the amount of hours they worked or length or employment. Almost half of the participants held a prior health related qualification at a certificate or diploma level (see figure 3).

Figure 1: Country of Birth

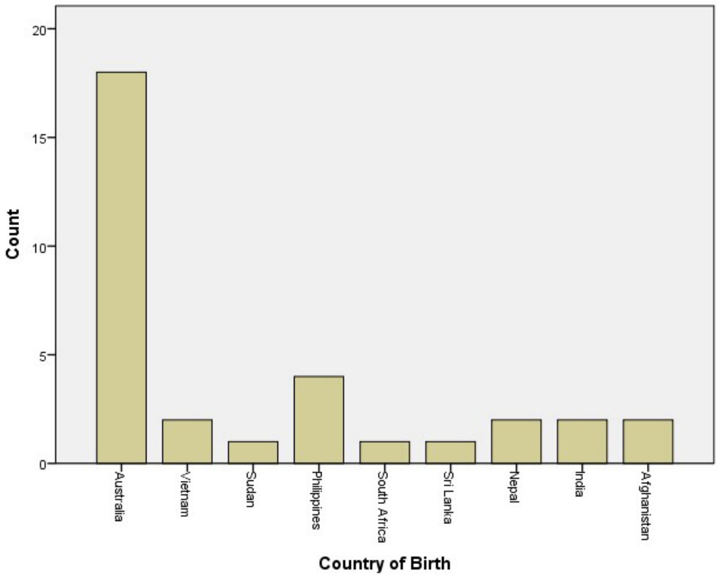


Figure 2: Participants' employment

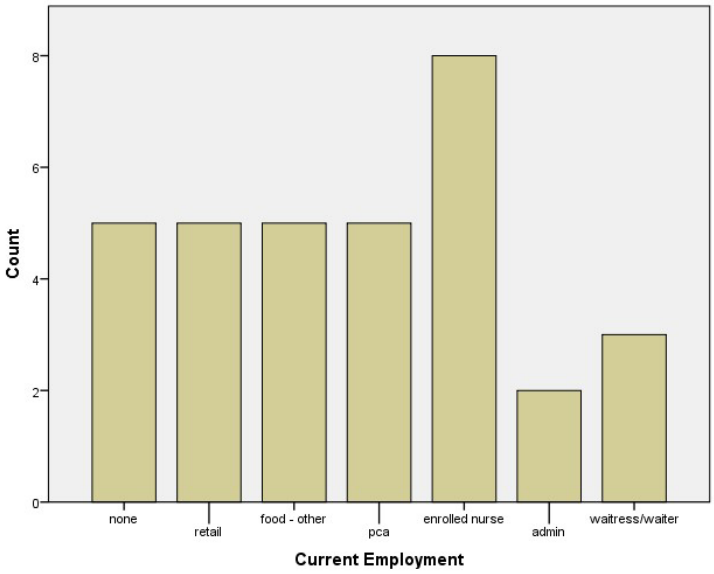
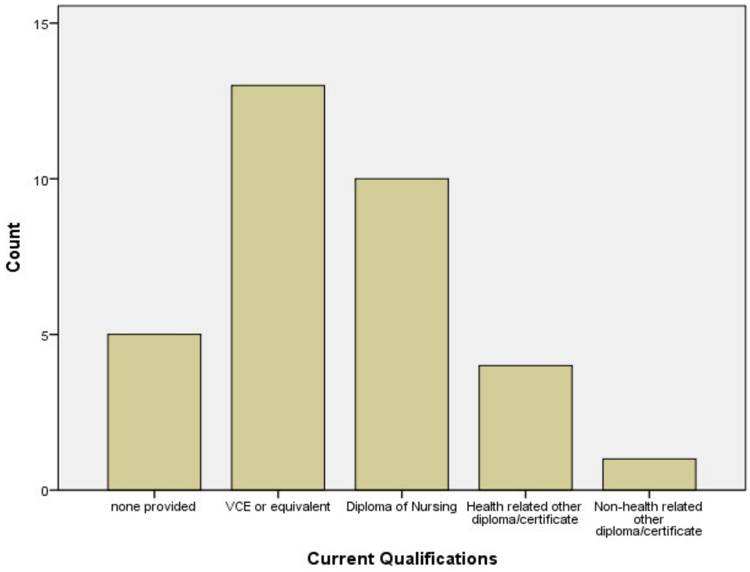


Figure 3: Qualifications



In addition to prior qualifications and prior employment, participants were asked to report their experiences with people with mental illness, including whether they had a family member or friend with mental illness, whether they had had contact with a person with a mental illness over the past year (and the context of that contact) and whether or not they had been on their mental health clinical placement at the time of completing the questionnaire. Whilst all of the students had completed the theory component of the second year mental health nursing unit, only 20% had completed their mental health clinical practice component. Despite this, 88% of participants had had some form of contact with a person with mental illness, although the majority of those were contacts within the clinical placement. Nearly 29% of participants reported having a family member or friend with diagnosed mental illness, however, what kind of mental illness was not asked.

Data analysis

Data was explored for any relationships between demographic data, education and employment experiences (including mental health placement) and opinions of mental illness. The tool used yields five factors: Factor A: Authoritarianism; Factor B: Benevolence; Factor C: Mental hygiene ideology; Factor D: Social restriction; and Factor E: Interpersonal aetiology. The mean scores obtained from participants for each factor are included in table 1. Because on the 6-point Likert scale 1 = *Strongly Agree* and 6 = *Strongly Disagree*, in general, higher scores in a sub-scale indicate a more positive attitude. Low scores (< 3) reflect a generally less positive attitude towards mental illness. Overall, on average participants had neutral to positive attitudes to mental illness, however, those factors which were most positive (factors A & D) had higher standard deviations, indicating low reliability.

Table 1: Opinions on mental illness

Factor	Mean	Standard Deviation
Authoritarianism	3.8005	1.06692
Benevolence	3.2152	0.85737
Mental Hygiene Ideology	3.1185	0.84351
Social Restrictiveness	4.1873	1.69846
Interpersonal Aetiology	3.5498	1.00008

Data was analysed for differences in mean scores dependent on each demographic variable using Independent Samples t-tests calculations (see table 2). On average, younger people (aged 20-29) scored significantly higher in Factors A (M 3.840, SD 0.785) and B (M 3.247, SD 0.735) reflecting more positive attitudes than older participants (A: M 4.750, SD 2.10; B: M 3.70, SD 0.264). Female participants' attitudes were significantly different to male participants' attitudes across all subscales, and were more likely to have more positive attitudes then males. There was a significant effect for country of birth, with those born in Australia found to have significantly more positive attitudes towards mental illness than those born in any other country (M 4.252, SD 1.152). Participant qualifications had no statistically significant effect on opinions whilst employment had a significant effect on factors A (authoritarianism) and E (interpersonal aetiology) only. There appeared to be no statistically significant effects on opinions whether the participant knew a person with mental illness or not (see table 3).

Table 2: Independent Samples t-tests – demographic data

Domain of study	Age		Gender		Country of Birth		Fathers Country of Birth		Mothers Country of Birth	
	t	*p*	*t*	*p*	*t*	*p*	*t*	*p*	*t*	*p*
Factor A: Authoritarian	1.274	0.214	1.138	0.264	2.973	0.006	2.082	0.046	2.564	0.015
Factor B: Benevolence	0.755	0.457	1.050	0.302	1.159	0.255	-0.045	0.964	0.978	0.336
Factor C: Mental Hygiene Ideology	1.595	0.123	0.913	0.368	1.078	0.289	-0.159	0.875	1.192	0.242
Factor D: Social Restrictiveness	1.157	0.258	0.801	0.429	0.855	0.399	0.714	0.481	1.422	0.165
Factor E: Interpersonal Aetiology	-0.766	0.451	0.906	0.372	3.221	0.003	2.066	0.047	2.433	0.021

Table 3: Independent Samples t-tests – Exposure to a person with mental illness

Domain of study	Qualifications		Employment		Mental Health Placement		Person with MI Known	
	t	*p*	*t*	*p*	*t*	*p*	*t*	*p*
Factor A: Authoritarian	-1.714	0.097	-1.827	0.077	-0.617	0.542	0.696	0.491
Factor B: Benevolence	-0.948	0.350	-1.345	0.188	-0.769	0.448	0.729	0.471
Factor C: Mental Hygiene Ideology	-0.271	0.788	-0.225	0.824	1.408	0.169	1.016	0.317
Factor D: Social Restrictiveness	-1.272	0.213	-1.246	0.222	-0.798	0.431	0.021	0.983
Factor E: Interpersonal Aetiology	-1.875	0.070	-2.533	0.017	-2.690	0.011	0.807	0.426

DISCUSSION

Implications for teaching

Knowledge of student demographic.

This study has found that students in their second year of nursing generally have neutral attitudes towards mental illness in relation to benevolence and mental hygiene ideology, but more negative attitudes in relation to authoritarianism, social restrictiveness and interpersonal aetiology. This is consistent with recent literature, which suggests that practicing health professionals hold more negative attitudes towards mental illness than members of the general public (Crisp et al 2000). It is thought, however, that practicing clinicians may hold more negative attitudes due their exposure to and understanding of the reality of mental illness (Jorm et al 1999). Whilst exposure to mental illness was found to have little effect of students' attitudes in the present study, country of birth and age were found to have a significant effect of student attitudes. Although these results may not be reliable due to the small sample size, it does indicate that academics should consider the background of their students when creating and developing curriculum content for teaching mental health nursing.

It has long been accepted in the literature that one's culture can affect their perception of physical and emotional states, interpretation of symptoms, willingness to engage in medical care and treatment as well as the expected response to illness of others around them (Angel and Thoits 1987). In particular, people from Asian cultures have been found to hold quite authoritarian views about treatment of mental illness and tend to be pro- social restrictiveness (Ng 1997), with similar results having been found in the present study. The present study indicates a need to tailor teaching in a manner which may change or improve less positive attitudes towards mental illness that are related to the effects of students cultural backgrounds. Whilst many educational programs have been found to be successful in improving the positivity of students' attitudes towards mental illness, across a variety of health disciplines (Rusch et al 2005; Corrigan et al 2001), the literature often fails to report in detail about the components of those programs that led to its success. It may be that direct academic to academic contact is required or more attention paid to this area of education at mental health and nursing education conferences in order to bring the issue into the open, enabling sharing of recommendations and resources to improve student opinions.

Tailoring teaching.

Students were found to have less positive attitudes towards mental illness in three of the five sub-scales: authoritarianism, benevolence and mental hygiene ideology. Although limited research has been conducted in this area, some authors report negative attitudes to subject matter can have a negative impact on student engagement and learning (Brophy 1983). Whilst further research is required, given that students were found to hold negative opinions about mental illness, this study indicates a need to promote student engagement. Without learning through engagement, students' negative attitudes are likely to continue, further perpetuating the negative opinions and hindering future engagement in a vicious cycle. Fear and anxiety about the subject matter has also been found to limit student engagement. Whilst not directly measured in this study, students who hold more authoritarian and pro- social restrictiveness attitudes towards mental illness may do so out of fear and anxiety.

This study has found that students personal, including academic and professional experiences, can have a significant effect on opinions on mental illness (although not to a statistically significant level). For academics, this is not a surprising finding. Students across all disciplines often report that they learn just as much outside of the classroom as they do inside the classroom (Hu and Kuh 2003; Kuh 1995), so it is not surprising to see these factors affecting students' opinions in this manner. In fact, the effect of out of classroom experiences is evident in the present study's findings of the significance of the effect of a mental health placement on student opinions on mental illness. It is imperative, however, that these less positive attitudes are improved throughout students nursing education. Studies in both health care (Shahrabani and Benzion 2012) and non-healthcare (Holt-Reynolds 1992) environments have found personal attitudes and beliefs can significantly affect professional practice behaviours. Although not investigated in the context of mental health, in theory, a student who holds more authoritarian views on mental illness, for example, may graduate to become a practicing clinician who practises within these attitudes. This may lead to more restrictive interventions with clients or, in the case of factor B (benevolence), treating clients with less empathy and care.

Implications for further study

Although not investigated in this study, teaching activities embedded within mental health nursing units may be designed to consider those factors that can impact on students' opinions on mental illness. Given the diversity of the student population, future studies may wish to use a similar data collection tools in a pre and post intervention method to identify the usefulness of specifically designed classroom activities to improve student opinions about mental illness. Given the significance of cultural background on student opinions, specific focus should be given (either in class or in assessment activities) to explore different cultural understanding of mental illness to draw students attention to this for personal preparation for learning. Consideration should also be given to the design of future similar research, in particular to the need for advertising and flexibility in participation methods to improve recruitment and, subsequently, the reliability of the results.

CONCLUSION

Negative opinions of mental illness have been found to affect students learning and can affect future clinical practice. This study used a quantitative methodology to investigate the opinions of second year Bachelor of Nursing students at a University in Melbourne. Using the 'Opinions of Mental Illness Scale', a total of 133 students participated in the study. Overall, students were found to have a generally neutral opinion about mental illness except in the sub-scale factors of benevolence, mental hygiene ideology and interpersonal aetiology where students held less positive opinions. Knowing the student populations opinions about a subject matter can assist academics to direct and focus their efforts to improve opinions in those areas. Whilst several authors have reported on programs that may assist in improving attitudes towards mental illness, very few sufficiently report on the detail of those programs to enable their reproduction. This study has highlighted an area of need for further investigation into the elements of educational programs that can assist in improving student opinions about mental illness. It is also recommended that this area receive more attention in nursing education forums, as sharing ideas and teaching experiences may improve the teaching and learning experience and, ultimately, improve client care.

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A review for Australian nurses: Cannabis use for anti-emesis among terminally ill patients in Australia

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KEY WORDS

Medicinal cannabis; symptom management; antiemetic drug; nursing care; palliative care; cannabinoids.

ABSTRACT

Objective
The objective of this article is to describe the potential benefits of medicinal cannabis in emesis control and the position of nurses looking after palliative patients who are on medicinal cannabis treatment in Australia.

Setting
Palliative care

Primary argument
Cannabis is the most commonly abused drug and its use for medical purposes was restricted throughout the world since the early 20th century. However many clinical studies show that the natural cannabinoid compounds can stimulate the cannabinoid receptors in the brain leading to attenuation of signal transmission, resulting in alleviation of the vomiting stimuli. The debate about the use of cannabis as an anti-emetic agent in patients with life-limiting conditions has renewed interest in recent years. The principle of palliative care is to improve the quality of life of patients living with life-limiting conditions based on the best evidence available. Although some evidence suggests cannabis may have therapeutic effects on some palliative patients and the Australian Commonwealth Government has recently changed the legislation, the concept of using medicinal cannabis in emesis control is very new to many Australians including the health care providers.

Conclusion
In comparison to conventional medications, medicinal use of cannabis in palliative care is a new phenomenon and nurses as well as general public may be less prepared for the use of cannabis as a medical modality in all clinical settings. This review is intended to raise awareness of the physiological mechanism of cannabis and its medicinal use to the nurses in Australia.

INTRODUCTION

The concept of cannabis use in medicine is not new and it can be tracked back to ancient times (Borgelt et al 2013). In the early 20th century, there was a rise in its use for the euphoric effects. As a result, cannabis became a prohibited drug and its use for medical purposes was also restricted around the globe (Alexandre 2011). However many clinical studies show that the natural cannabinoid compounds can stimulate the cannabinoid receptors in the brain leading to attenuation of signal transmission, resulting in alleviation of the vomiting stimuli (Sharkey et al 2014; Borgelt et al 2013; Johannigman and Eschiti 2013). The debate about the use of cannabis for medical purposes has remerged in recent years. Currently, the use of synthetic cannabis for certain medical conditions has been legalised in Canada, New Zealand, eight European countries and 23 states in the United States of America and Washington DC (Penington 2015;Borgelt et al 2013). In Australia, the amendment of the Narcotic Drugs Act 1967 (Cth) in February 2016 allows the cultivation and access of cannabis for medicinal and scientific uses by licensed individuals.

This literature review aims to describe the potential benefits of medicinal cannabis in emesis control and provides an overview of the current legislation and the position of nurses caring for patients who decide to use medicinal cannabis in Australia.

Method of review

The literature search was undertaken in three electronic databases; PubMed, CINAHL and MEDLINE in October 2015. The various combinations of search terms cannabis, humans, vomiting, anti-emetic agent, dronabinol, nabilone, cannabinoid receptors, medicinal cannabis, legislation, laws, Australia, palliative care and health care providers aimed to capture the articles in relation to the medicinal use of cannabis as an anti-emetic agent. In addition, reference lists from the articles were also used to identify the relevant literature for this review.

Effects of cannabis in humans

Emesis is a complex neurological reflex leading to ejection of possibly poisonous material from the gastrointestinal tract, and nausea serves as an unconditioned stimulus to learn that the particular food should be avoided in the future (Sharkey et al 2014). Since neural control of nausea and emesis uses the endocannabinoid system, use of cannabis as an antiemetic could be justified for its stimulation of the endocannabinoid system.

The vomiting centre consists of several brainstem nuclei that receive input from the gastrointestinal tract or from brain areas that continuously monitor the blood for noxious chemicals. Stimulation of these areas leads to the complex motor reflex that causes retching and emesis to eject from the body the possible source of poisoning (Horn 2008). These areas contain cannabinoid receptors CB1 and CB2 (Sharkey et al 2014; Mackie 2005). Stimulation of receptors by natural cannabinoids (endocannabinoids: 2-arachidonoglyerol and anandamide) leads to attenuation of signal transmission, resulting in alleviation of the vomiting stimuli (Sharkey et al 2014).

It is through the stimulation of cannabinoid receptors in these areas that consumption of cannabis exerts its anti-emetic effects, a well-known effect of cannabis consumption that continues to draw people with chronic nausea to its use. The most abundant cannabinoid in cannabis, Δ9-Tetrahydrocannabinol (THC), is a partial CB1 agonist that when administered to cancer patients, supress the experience of nausea and vomiting (Voth and Schwartz 1997). It is the most abundant but also most psychoactive derivative of cannabis. The other important active molecule, cannabidiol (CBD), is a non-psychoactive cannabis derivative that has not been investigated for its antiemetic properties, but appears to potentiate the antiemetic properties of THC when administered in a 1:1 ratio (Sharkey et al 2014).

Nausea, as the sensation that precedes vomiting, is less well understood. Nausea centres reside in the forebrain, but activation of insular cortex during nausea links this area to the vomiting (Sharkey et al 2014). The insular cortex contains CB1 receptors (Mackie 2005), making it susceptible to the inhibitory effects of endocannabinoids and plant-derived cannabinoids, giving the latter the anti-nausea properties.

While the above makes cannabis or its derivatives suitable antiemetic alternatives, the presence of cannabinoid receptors is not limited to the vomiting and nausea centres (Mackie 2005). Other neurological effects of cannabis use are mild euphoria, sedation, relaxation, hunger and sensory input enhancement, making it a drug for 'recreational use', despite other non-desirable effects such as impaired attention, balance, cognition, judgement, memory and sense of time, as well as anxiety, disorientation, paranoia and psychosis (Borgelt et al 2013). These effects reflect the widespread presence of cannabinoid receptors in the brain, making all of them susceptible of stimulation by externally supplied cannabinoids.

Despite these undesirable effects, there is potential use of cannabis use in a medical context, specifically in palliative patients suffering from chronic terminal illnesses. While cannabis can cause addiction, it is ranked less addictive than tobacco, alcohol and another antiemetic drug also used for recreational purposes, ketamine (Nutt et al 2007). Furthermore, the physical harm caused by cannabis, both acute and chronic, is also ranked below these three substances (Nutt et al 2007). The benefit of nausea and emesis suppression in the late stages of life may outweigh the risk of addiction or psychosis.

It is important to note that the active cannabinoids concentration may vary up to three-fold in different strains (Borgelt et al 2013; Barni-Comparini et al 1984). Therefore, determining the dose and route of administration can pose several problems. To add complexity, the route of administration determines both absorption time, from a few minutes for smoked THC, to 30 minutes for oral THC. In addition, the bioavailability ranges from 2-56% for smoked THC and 5-20% for oral THC with a peak concentration reached anywhere between one and three hours after ingestion (Huestis 2007). The two variables of quality and route administration make titration very difficult in individual patients, when also considering the possible co-morbidities such as respiratory deficiencies that would contraindicate smoked cannabis, or gastric problems that delay oral absorption.

CURRENT MEDICINAL CANNABIS LEGISLATION IN AUSTRALIA

The Narcotic Drugs Amendment Bill 2016 (Cth) facilitates the production of medicinal cannabis products for specified patients under clinical care in Australia. Access to any cannabis products manufactured under this national licensing scheme is the joint responsibility, with supply being controlled by provisions under the Therapeutic Goods Act 1989 (Cth) working in conjunction with State and Territory drugs and poisons legislation.

An interim decision by the Therapeutic Goods Administration's Advisory Committee on Medicines Scheduling has rescheduled medicinal cannabis from a Schedule 9 to Schedule 8 (Therapeutic Goods Administration 2016). This means medicinal cannabis is available for clinical care, with restriction on the cultivation, manufacturing, supply, distribution, possession and use to reduce abuse and misuse. At the time of writing, both Poisons and Therapeutic Goods Amendment (Designated Non-ARTG Products) Regulation 2016 in New South Wales and Access to Medicinal Cannabis Act 2016 in Victoria allow restricted access to medicinal cannabis produced under this national licensing scheme once it becomes available. Other states and territories are currently in the process of developing legislation and schemes covering restricted access.

The position of Australian nurses caring for patients on medicinal cannabis treatment

The principle of palliative care is to improve the quality of life of patients living with life-limiting conditions based on the best evidence available (World Health Organization 2015). Although some evidence suggests cannabis-based drugs, including dronabinol and nabilone, may have therapeutic benefits for some patients with life-limiting conditions (Philipsen et al 2014; Green and De-Vries 2010), medicinal cannabis in emesis control is a very new treatment option available for Australians. In principle, nurses should act lawfully and comply with the professional standards as set out by the Nursing and Midwifery Board of Australia when caring for patients with life-limiting conditions who are using or want to use cannabis as a treatment modality for symptom management. In addition, nurses should:

- support the evidence based practice and clinical research in medicinal cannabis. The non-medicinal use of cannabis and its negative effects on humans have been well documented since 1930s, but its pharmaceutical effects, in particular, the long-term medicinal benefits have not yet been adequately explored (Philipsen et al 2014; Green and De-Vries 2010);
- be aware of and keep up-to-date with the changes in legislation and regulations in the medicinal use of cannabis. The regulations may be changed when more scientific evidence about its beneficial medical effects on humans becomes available in the near future;
- keep the patients and their carers informed and educated about the legislative change and therapeutic efficacy of cannabis. Under any circumstances, patients have the right to make informed decisions about their health care (Johannigman and Eschiti 2013);
- be involved in the review of the suspected risk in its clinical use (Johannigman and Eschiti 2013); and
- respect and support the patients who have chosen to use cannabis for symptom management such as anti-emesis (Philipsen et al 2014).

CONCLUSION

Overall, in the context of palliative care, it is clear that patients with life-limiting conditions should receive the optimal treatments in order to improve their quality of life. In comparison to conventional medications, the use of medicinal cannabis in emesis control is a new phenomenon in palliative care. The information available in relation to the long-term therapeutic effects of cannabis and the contraindication with other drugs is very limited. Further research is required to explore the needs of patients who use medicinal cannabis for anti-emesis and their experience in receiving cannabis treatment in Australia.

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Promoting student belongingness: 'WANTED' - the development, implementation and evaluation of a toolkit for nurses

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Belongingness, clinical environment, toolkit, nurses, student nurses, Delphi method.

ABSTRACT

Objective
Literature suggests that the need to belong influences health and well-being, behavioural, emotional and cognitive responses. This paper describes the impending development and validation of a toolkit for nurses to create the experience of belongingness with a team approach, for student nurses undertaking a clinical placement.

Setting and Subjects
The design of the toolkit will be developed from a selected Delphi panel process involving nursing experts' experience and opinions. The toolkit will then be distributed to nurses in selected clinical areas for use during periods of clinical placements.

Primary Argument
Clinical placements are essential for professional socialisation in which nurses provide compelling role models for how to think, feel and act. However, students have often identified a sense of alienation through poor clinical experiences. The need to belong and be part of a team exerts a powerful influence on cognitive processes and behavioural responses. The absence of meaningful interpersonal relationships can result in failure to develop optimal clinical reasoning and critical thinking skills to manage patient care safely.

Conclusion
More needs to be achieved than to simply justify the core attributes of a good clinical learning environment. Understanding of the key role that clinical leaders and supervisors exert to create a belongingness environment can influence positively the attitude of other staff towards students. For a valued positive clinical learning experience to become the benchmark of best practice, it requires a structured process, a toolkit to enable nurses to comprehend the concept of belongingness and to support them in embedding this model into their role of supervision.

INTRODUCTION

A positive clinical learning environment is essential to effectively provide the opportunity for students to integrate theoretical knowledge into nursing care. In preparing them for a practice-based profession, many complex issues influence their learning experiences, not least the attitude and empathy that clinical nurses have towards supporting the nurse/student relationship. While numerous evidence exists on the experiences of nursing students which range from supportive to challenging and concerning, the focus of this research is to develop practical strategies in the form of a toolkit which will assist registered nurses to actively engage in managing the clinical learning environment in a positive manner. The purpose built toolkit can be described as a suite of interactive strategies, resources and processes designed for and around key activities such as orientation, legitimisation of the student role and informal social inclusion strategies that will guide nurses in providing an effective, sustainable and inclusive environment both now and into the future.

BACKGROUND

The challenges confronting the Australian healthcare system are widely acknowledged in many global publications and included among other things, an ageing population and workforce with a constricting labour market. More advanced technical and medical possibilities and limited financial resources are emerging global trends. The identified problem of attrition in nursing student programs has raised international anxiety for the future and the workforce development targets (Hamshire et al 2012; HealthWorkforceAustralia 2012).

Health Workforce Australia (HWA) Act in 2009, identified as one of its functions, a need to provide other support for the delivery of clinical training for the purposes of the health workforce (HWA WA Act 2009). The Clinical Supervisor Support Program Discussion Paper for Health Professionals (Health Workforce Australia 2010) confirmed that whilst health and education establishments were endeavouring to achieve appropriate placements, there was still remaining confusion regarding the role of the supervisor leading to, in some cases, a less than acceptable environment. An integral initiative for improvement proposed was the implementation of effective supervision through support and education for all staff.

Hospitals are sociologically rich places with a complexity of cultures which are often hard to understand for the outsider and even harder to change. Price (2009) maintains that early socialisation experiences, such as exposure to romanticised views of nursing, may cause angst for many students as assumptions and expectations of their chosen profession are not realised in actual practice. Specifically, there is often a mismatch between perceived and preferred expectations resulting in lost opportunities to engender safe practice, to build sound clinical judgement and to thereby develop professional identity.

Brown et al (2011) maintain there has been limited research evaluating the clinical learning environment (CLE) from the holistic approach of relating the perspective view of students. Instead the literature concentrates repeatedly on the significance of the immediate environment in how and what students do (Henderson et al 2012). However, O'Mara et al (2014) found that whilst interviewing students, two main sources of concern were identified in the CLE. One area of concern was the relationship with others and the challenge for students this presents in building a bond with the clinical staff. The second challenge identified was the context in which their learning experiences occurred; the timing, the amount and type of clinical experience which impacts on their learning and on them as individuals. Conversely, elements identified that were highly valued by the students as being positive for a successful clinical placement were a receptive welcome, appreciation, autonomy and recognition, support, and quality of supervision (Brown et al 2011).

DISCUSSION

Supportive learning relationships are key for nursing students to feel they have a place in the team. This not only includes the supervisor/supervisee relationship but also a sense of group belonging within the clinical environment (Henderson et al 2012). Findings from focus group interviews throughout the literature suggest students who are supported with a positive attitude are able to support each other in clinical placements and can thereby reduce feelings of social isolation, reduce feelings of incompetence and actively create a heightened sense of readiness (Christiansen and Bell 2010). The absence of meaningful interpersonal relationships has been identified as a barrier to developing higher order clinical skills amongst students. Levett-Jones et al (2007) maintain this can lead to an increase in associated behaviours such as unquestioning agreement with another's decision and resulting in failure to develop clinical reasoning and critical thinking skills to manage patient care safely.

Success for improved clinical placement experiences is dependent upon a number of factors, one of which is the development of effective interpersonal relationships between all stakeholders (Levett-Jones 2007). Further research is required to explore methods to support and recognise the need of registered nurses in their supervision role and that belongingness needs to be actively fostered before valuable and prospective members of the healthcare community are lost to other professions (Levett-Jones et al 2008).

A recent report by the Department of Health Victoria (Victoria, DOH 2014) indicated that clinical staff required both clear instruction and tools to assist them in their supervisory role. While there is an awareness of accountability and responsibility for students by nurses generally, the role appears to be understood in varying degrees. Hence there is potential significance in designing a relevant and practical 'belongingness' toolkit. Despite substantial past research into student clinical learning environments, specific studies from the psychological educational perspective are very limited. Many researchers agree that more needs to be done than simply justify the key attributes of a good clinical learning environment (Chan 2001).

Recommendations for practice have been proposed by Levett-Jones and Lathlean (2009) for ascent to competence. They maintain the key role for clinical leaders and supervisors is to create an environment of belongingness and to influence positively the attitude of other staff towards students. This approach will thereby promote dialogue and debate on professional issues. However, from the health professional's perspective, belongingness is not clearly defined, nor understood. A common example is demonstrated in the practice of orientation before the start of a clinical placement. Often much time and effort is placed on the orientation process in many organisations, however this process is often based around the physical environment and not the psychosocial one, which could promote a sense of belongingness to the organisation. Therefore providing a purpose driven toolkit based on current research could encompass activities that will support busy staff, lead to a student-friendly culture and enhanced satisfaction and morale (Cleary and Walter 2010).

THE FRAMEWORK OF A 'WANTED' TOOLKIT

Welcome – legitimisation of the student role

Attitude – compassion for self and students

Nurture – encourage sociable exchange

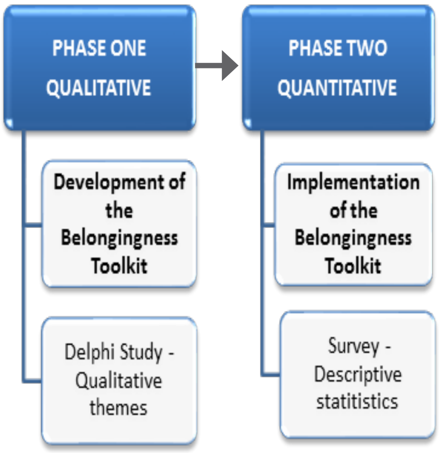
Talk – involve in ward and work discussion

Encourage – appropriate autonomy for completion of tasks

Delight - in a supportive relationship and success

This framework is the foundation on which it will be possible to build a research based, creative and realistic method of how best to support nurses creating a belongingness environment. In the course of the design of this toolkit, both qualitative and quantitative methods will have been used as a mixed method model, which will provide a more holistic approach. This methodology will deliver wider exploration of the social, philosophical and ethical issues related to belongingness in clinical placements and will encourage the use of one type of investigation to inform the development of another. In comparison to previous work based on the learning environment in which the value of the studies lay in the resulting implications for nursing education (Levett-Jones and Lathlean 2009; Chan 2001), this methodology will go one stage further to produce a practical instrument whose value could be in supporting the provision of better educational experiences and environment.

Figure 1: Sequential Mixed Methods Design (Creswell et al 2011)



For the initial stage of this study the Delphi technique was employed for the collection of expert opinion to refine assumptions, options and supporting evidence within given areas (Wilkes et al 2010). The aim was to achieve convergence of opinion for tool development and then attempt to address what could/should be in creating an environment of belongingness. The Delphi technique has been used previously for the development of assessment tools in health (Biondo et al 2008).

The panel for the Delphi method consisted of a number of subject-matter experts. The criteria for deciding who was the most appropriate did not only rest on knowledge of the subject, but also personal experiences, which is essential to understanding the socialisation of the nursing culture. An inclusion criteria checklist was created to identify potential experts for the Delphi panel both nationally and internationally (with an understanding of Australian education and health care practices). A comprehensive report of the collective data and a template for the toolkit will be prepared and submitted to the panel for feedback.

The design of the toolkit is based on the findings from the Delphi study which involved a panel of eighteen experts. From three rounds of questionnaires that were conducted over a six month period using a survey tool and qualitative software, nine major themes have emerged. These have proved to be similar to the views expressed by students in the literature identifying a positive learning environment. These themes have been used to develop the framework. However, the useability and sustainability can only really be assessed over a period of time by those trialling the WANTED toolkit prototype. This will require surveys using pre and post implementation questionnaires. Using descriptive statistics to summarise the pattern of responses of participants will indicate the overall performance of the toolkit in the selected clinical areas. It would be ideal for the pre questionnaire to include demographic details such as age, sex, designation (EN/RN/CN), years of nursing and nursing education (university/hospital based). This could provide further analysis of findings against these demographic parameters which, may provide interesting findings and ramifications for the future and support the successful expansion of the toolkit into other clinical areas.

Given that nurses are often time poor and may be supporting students on a continual basis throughout the year, serious consideration must be given to ensuring this initiative does not add to further paperwork or load. Instead by putting strategies into place that will enable the student to become more autonomous it could reverse the role so the student is supporting the nurse, facilitating the development of trust.

CONCLUSION

There is considerable evidence that many students have experienced poor clinical placements, where they did not establish a rapport with the clinical team and were treated disrespectfully (Hamshire et al 2012). Much has been written in psychosocial research identifying the consequences of exclusion from groups. Society usually associates hospitality with culture, a social practice, a more personal quality to be admired. However in our western culture individualism and the need to feel safe and secure from a perceived hostile environment seems to be a priority that translates into our work through exclusion, or fear of involvement. Conversely important behaviour activities of cooperation and maintaining harmonious relationships within the group do allow a greater success rate in all areas of life.

A popular definition of belongingness (Levett-Jones et al 2007) is described as the need to be and the perception of being involved with others at differing interpersonal levels, a need for self-esteem which contributes to one’s sense of connectedness. However from students’ perspectives described in the literature it is apparent they are often overwhelmed by the magnitude of their surroundings in the health care setting, but are compelled to integrate and belong. This unfortunately often proves difficult and impacts on their ability to become competent (Levett-Jones et al 2008). It is therefore evident from previous research that in order to function effectively a sense of belongingness is a prerequisite of successful professional and clinical development. Nonetheless and perhaps regrettably, from a nurse/student perspective, belongingness is not clearly understood by many clinicians.

The art of creating belongingness in the clinical environment is to discover the means and new possibilities for staff to encourage students to be part of their community or team. A positive learning experience can only be gained through not complex, but simple principles that should be part of daily life. The strong need to ‘belong’ has been recognised by early societies who lived in environments where survival and the continuation of the next generation were reliant on cooperative group members. This concept is no less important for the nursing profession. Therefore, when looking for a practical solution, straight forward strategies are often the most effective. The problems are known, solutions are needed.

Ultimately, the focus of this paper is not to establish if belongingness is necessary for enabling learning to take place, as this has been identified and documented extensively. The focus is rather to explore and pilot an initiative to address the problem. The challenge is the wider investigation of the social, philosophical and ethical issues related to belongingness in clinical placements and establishing a toolkit that will have useability and sustainability to embed the key attributes of a good clinical learning environment into all clinical placements.

A qualitative study approach can be beneficial and improve understanding through the investigation of the underlying complex phenomenon of belongingness. Although this approach does not offer the rigour of clinical hypothesis testing, nonetheless it is a technique developed to facilitate deliberation on a problem, providing scientific methodology to aggregate informed opinion. Therefore every effort will be made to ensure that the toolkit will become the benchmark of best practice and that it will provide the key prerequisites for clinical leaders and supervisors to create a belongingness environment and to influence positively the attitude of other staff towards students.

RECOMMENDATIONS

Although quality supervision is the key, nonetheless, it is still challenging for many nurses regardless of the fact they may have numerous years of clinical expertise. Indeed many supervising nurses, have very little or no teaching experience to be able to appropriately support the student (Carrigan 2012). Continuing to maintain learning on a day to day basis will be reinforcing and requires questioning, feedback, guidance, shared discussion and problem-solving. This has already proven to be worthwhile as increased time and energy spent in the initial development of the students produces positive long term benefits, not only to the clinical areas but also to the profession.

It is recommended that further research be undertaken after the results from the pilot studies have been collated identifying the usability and sustainability. This further research could be a longitudinal study to identify if there has been a significant change in the attitudes and behaviours of nurses to create an environment of belongingness and its influence on student learning.

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